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Edited by

E. A. PEEL

H. J. HALLWORTH

A. M. WILKINSON

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Editors: E. A. PEEL, M.A., D.LITT., H. J. HALLWORTH, M.A.,
A. M. WILKINSON, M.A., PH.D.

The second Occasional Publication of the *Educational Review* will be issued at the same time as the February 1965 issue. It will be:

SPOKEN ENGLISH

by

ANDREW WILKINSON

with contributions by

ALAN DAVIES

and

DOROTHY ATKINSON

There will be a foreword by Professor E. A. Peel, Head of the Birmingham University Education Department. All the contributors are members of the Department team which is investigating aspects of the subject for the Department of Education and Science.

The book will be concerned with the revolution that has taken place in our attitudes towards the spoken word recently, and the implications of this for education. Thus there will be chapters on linguistics and spoken English; on teaching the spoken language in schools; on examining oral expression and listening comprehension; together with a survey of existing examinations, bibliographies, and a vocabulary (the subject in this form is so new that its terminology is in process of being coined).

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UNIVERSITY OF BIRMINGHAM

EDUCATION AND OUR SOCIAL THINKING

(The Raymond Priestley Lecture, 1964)

by H. L. ELVIN

Director, University of London Institute of Education

How do we conceive of Education as a subject of study for a first degree? It is clearly a field of applied study, traditionally dependent on the logically prior studies of philosophy and psychology and perhaps history. Now there is an increasing (and very desirable) insistence that we study education more systematically in its social setting, and it is assumed that this study should rest academically on the discipline of sociology.

But what exactly—and I am not jeering—is sociology? Mr W. G. Runciman (1) says that on inspection it usually turns out to be one of three very different things. It may be contemporary history or anthropology (my comment on that is that I think most people do regard anthropology as the sociology of primitive societies and sociology as the anthropology of developed ones). Or it may be collective or social psychology (here indeed there is a field where the two disciplines overlap fruitfully, but I would have thought they still had the degree of separate identity that justifies us in giving separate names to any two physical sciences that in practice overlap considerably). Or thirdly, at its most general level sociology may be the sort of speculation that should properly be bracketed with the philosophy of history. Runciman argues that supposed general sciences of society have usually been nothing more than philosophies of history and that we had better abandon the use of sociology as a general term and speak only of the sociology of something—of industry, of law, of whatever is relevant. This will allow us at least to speak of a sociology of Education.

But we shall still have to determine what sort of a study that is. We come back to the meaning of the word “sociology” and to the by no means new question whether this implies a study that can be described, and sufficiently described, as a science. Runciman, invoking Max Weber, says that although of course subjective impres-

sions must be validated scientifically to the degree that that is possible nevertheless to explain a social situation we need to do more: that to understand what is happening, for instance, when we see people exchanging objects for bits of paper or metal we must grasp an idea, the idea of buying and selling with money. This is undoubtedly not quite the same as the establishment of a hypothesis in the physical sciences. Most anthropologists would agree that they need to comprehend "internally", as well as to confirm objectively and externally, if they are to give an account of a society. What is certainly true, as Runciman goes on to argue, is that the sociologist and anthropologist are involved in value-judgments even when they classify activities. If an anthropologist describes the rites of a primitive tribe as "magical" rather than as "religious" he is making a value-judgment about them, one that would have been different had he reversed the words. Underlying his choice of terms is a scale of values in his own mind.

If educational sociologists tell us that sociology is a science we need not quarrel with them unduly: they are bringing needed research and evidence, factual and statistical, into discussions in which we are all liable to be prejudiced or at least impressionistic. But we may insist that this is not a sufficient account of education in its social setting. The something over and above the scientific account is of course amenable to rational discussion and not in the realm of the mystagogue, but it is not "scientific". In his recent book (2) Dr Conant said that although we may speak of the educational sciences (meaning the sciences that contribute to the study of education) it is misguided to speak of the science of education—just as we may speak of the medical sciences but would be begging questions if we spoke of *the* science of medicine. This something over and above the scientific study of education which is to be distinguished from both sociology and social psychology rests academically on social philosophy.

But this term, too, needs a comment. We have grown used to a practice of philosophy that is severely technical. In particular, in the interest of greater accuracy of thought and language, it eschews system-making with suasive overtones. Should a social philosopher, and in particular one dealing with the social philosophy of education, confine himself to the examination of the terms and concepts people use when talking about education and society? Would expression of his own beliefs as to what education in its social aspects should be like be "not philosophy"? If he examined the value-judgments people make would an indication of his own preferences be improper?

It would seem more difficult to maintain this severe technical

detachment in moral and social philosophy than in metaphysics. This is not only because a writer's very choice of language is bound to betray his preferences. It may also be argued that the very elucidation of a value-judgment should, so to speak, imply an evaluation of its relative value, and that writings in social philosophy would lose a great deal of their point and purpose if this did not happen. We insist that our students read the works of Plato and Rousseau, and there can be no point in this unless they are led to a passionate interest in the whole relation of education to society. Whose work indeed could be said to be more highly charged with advocacy as to what society should be like, and education consequentially? Are they to be accepted as part of the pabulum of the social philosophy of education, and, say, R. H. Tawney excluded (perhaps because the controversies about policy that he was concerned with still divide us)?

Yet there is another side to the question. Tawney was a moralist. He most certainly had, in the non-technical sense of the term, a "social philosophy". But was he what we should now call a social philosopher? We should feel it wrong of course (as he would have) in an ordinary academic lecture, to advocate a mere programme of political action or to indulge in propagandist controversy. But ought we, though recognising our expositions as "value-relevant", to go so far as to try to make them "value-free"? Can we, any way? This is too complicated a question to be answered summarily. But there clearly is an area within which persons whose recommendations as to policy might differ greatly should be able to discuss dispassionately the terms and concepts that we use; and it is equally clear that such a discipline should be a prerequisite for thinking out one's own general attitudes. It would perhaps be not unreasonable to indicate the distinction by calling this discipline social philosophy, using a broader term, such as social thinking, for expositions that quite purposefully recommend our own value-judgments. I would only add that the second, so long as it is conducted at a high enough level and with due opportunity for the expression of rival points of view, seems to be as necessary in the education of all of us as the first.

The link between theory and practice in educational matters is quite unusually close. It is odd that so many people should think theoretical discussion of education a waste of time, for there are few activities in which the ideas that people hold so directly influence what they do. When things go wrong in education it is those who have put forward theories who are commonly blamed, as John Dewey has been blamed in recent years for the "progressive" ideas

that have supposedly weakened American education. Such theoretical disputes are not idle. As Dewey said at the beginning of *The Child and the Curriculum*: "Profound differences in theory are never gratuitous or invented. They grow out of conflicting elements in a genuine problem—a problem which is genuine because the elements, taken as they stand, are conflicting." That these theoretical discussions are of immense practical bearing may indeed be observed any day of the week.

Here, for instance, are the opening sentences of the turnover article on the political parties and Education from *The Times* of Wednesday 29th April 1964:

The hottest political debates about education are not, strictly speaking, about education at all. They are about national investment, international competitiveness, social justice, the future requirements of industry, and, above all, class.

Let us take a closer look at this. There is one immediately obvious ambiguity, in the word "education". Does it mean the education of individual children, or does it mean national educational policy? If the former, the writer may conceivably have a point. If the latter—and after all would not one expect the political parties to be concerned with educational policy?—all we have is a tautology: that the hottest political debates about educational policy are about educational policy. Policy decisions as to the development of nuclear power for military purposes may or may not be held to have "nothing to do with science", but no one would suggest that they are not the proper concern of the political parties.

What does "strictly speaking" mean? Does the writer mean that strictly speaking education is the imparting of knowledge to the young and that bringing them up to be useful and acceptable members of society is not strictly part of their education? Some of the things he mentions could be described as part of the instrumental rather than the essential purposes of education. This is true, for instance, of the requirements of industry. If we had such economic affluence that there was no need for anybody to work at all there would be no need to relate education to our requirements in educated and trained manpower. This is therefore an example of the need for our system of education to serve some other important purpose. But even if we had no need to work we should still need to educate the young, and there is a difference here between the economic and the social functions of education. We cannot conceive a time when it will not be

necessary to educate the human young so that they may grow up properly into human society. Indeed, some writers have said that this is the essential purpose of education. Whether we should agree to that or not there can be no doubt that this is one essential purpose of education. That being so, the question of "class" cannot be so quickly dismissed from considerations that are strictly educational. The kind of social person you are educating a boy or a girl to be is strictly relevant to a discussion of your educational purposes, unless by education you mean only formal instruction in subject matter, and hardly anyone would give a definition as narrow as that.

Let me reinforce what I have said about the practical bearing of these theoretical discussions by considering three statements. They are not actual quotations, but we hear the like of them all the time. Here is the first: "People who want comprehensive schools want them for social, not educational reasons." And the second: "We aren't snobbish, you know, but we do want Elizabeth and Robin to speak nicely and to have good manners, and that is why we send them to a private school." And the third: "It is unfortunate that the Public Schools only take in boys from parents who are reasonably well-off, but they give a good education and turn out a fine type of boy, and I don't see how you can forbid parents to make sacrifices to give their children such an advantage."

Our first impulse is to say of such statements that they are either right or wrong. On reflection we realise that the questions they raise are not so simple. If we accept the first statement we imply that social questions should not come into educational decisions. But wasn't the educational decision of the second statement taken on social grounds? And don't parents send their boys to "Public" schools very largely on social grounds? This is awkward, for those who use the first argument against comprehensive schools, saying that social considerations are improper, are often the very same people who send their children to private schools and later to "Public" schools for reasons that are also social and that in their own case they consider very proper indeed.

This is only a first stage in the discussion—perhaps only an indication that there is something to discuss. The rejoinder itself covers an ambiguity in the word "social". A parent sending his boy to a "Public" school might maintain that such a school would give him a good social education (that is to say, would teach him how to think of himself not as a self-sufficient individual but as someone who must act as a responsible member of a social group) and yet agree

that from the point of view of our national society it was socially bad that these schools should serve only a privileged minority. We are then driven to discuss whether the social training given by these schools is or is not on the whole preferable, in this first sense, from that given in a comprehensive school; and of course there might be more than one view.

Taking the word "social" in its second sense, however, as referring to the interests of the national community as a whole, the rejoinder we have made may not be adequate. There are other things to consider. You may be of the opinion that in a democratic society, where socially people should be treated as equals, it is desirable as a preparation for adult civic life that the young should go to a common school. But you have to face the argument that this, though conceded to be good in itself, may be inimical to other important purposes of education. A familiar fear about the comprehensive school is that it may handicap the intellectual development of the abler children by subduing them to a school milieu of mediocrity. There is rather little evidence about this as yet in this country, and the evidence that is coming from Sweden suggests that the fear has no great foundation in fact at any rate in the earlier secondary years. But suppose that research and experience showed that the abler children were so handicapped, and that the comprehensive schools did not develop such good sixth forms as selective schools (public or private), then we should have to make a choice. Should we prefer a society in which young people of different degrees of ability learned to feel themselves strongly to be fellow citizens, or one in which this sentiment was less developed but in which the abler young people had been given a better chance to develop their distinctive powers, which they might use later to the benefit of society as well as of themselves? This would be a question, not of science, but of values: a question as to which kind of society we wanted because we valued it more highly than the other.

In this example I have of course over-simplified. In reality we should have to consider other things as well. What, in any given total social context, would be the degree of anti-democratic effect of separating the abler children from the others? At what age should we propose to make the separation? How far is a separation on grounds of ability to be distinguished in its effects from a separation on grounds of class? May the general texture of society save the "set" of social behaviour given by exclusive schooling from being dominant or final (cf. the role of fee-paying private schools in the United States,

for instance, with the role of the "Public" schools in England)? But when all such relevant questions had been considered there would still be a choice, a choice as to whether a given kind of education did or did not promote the kind of society we should like to see. Our choice would depend on our social thinking and the way in which we related it to our educational thinking, and our clearness of mind about it would largely depend on whether we had or had not a well-thought out social philosophy of education.

Let us look at the second of my imaginary quotations. If we heard some genteel suburban mother saying this about her precious Elizabeth and Robin some of us might be tempted to settle the argument with a single word—snob! But we shouldn't have settled it. Those who defend the comprehensive schools on social grounds might note that this Mrs Smith-James of 5 Acacia Avenue is also invoking social considerations. Are they wrong in themselves, wrong because they are social? Do we really prefer children who speak badly and have bad manners to those who speak well and have good manners? Do we say that she is judging speech and manners by inadequate standards, or do we agree that the speech and manners may be better at her private school but that the teaching is worse and that she is handicapping her young thereby? Or do we admit that the speech and manners are better and in this case the teaching as good and yet think she is wrong because she is putting less important social considerations before more important ones? Those who dislike the attitude of Mrs Smith-James will probably find that they are driven back to a social argument themselves. The case they will make against her is not that her arguments are social but that she has her social values in the wrong order, that she is sacrificing the important social value of community with our fellows to the cultivation of rather superficial qualities and superior exclusiveness. But this has to be argued.

The third of my imaginary quotations raises another important question. The speaker agrees that the "Public" schools draw their boys from a privileged section of society and agrees that they get yet more advantage from going to these schools. But he plays this down. For the sake of argument let us concede that these schools do teach well and produce a good type of boy. How do we weight this against the fact that the parents who send their boys to these schools are purchasing for them additional social privilege? Is this fair or right? The speaker says that it is unfortunate, but that you can't really say to parents that they are not to do the best they can for their children.

No doubt it would be a poor society that discouraged responsible parenthood.

Here is quite a tangle of argument. It summarises the dilemma of the Socialist critic of the "Public" schools who sends his own sons to them. That undoubtedly looks inconsistent. But how far is it a resolution of forces that is not necessarily to be condemned? We have our principles: but how far are we to sacrifice our children to them?

This confusion between the supposed natural rights of parents and the supposed rights of society has been carried into high places. It is to be found in the education clauses of the Universal Declaration of Human Rights and in our own Education Act of 1944. It has already led to court cases in this country. As Professor Peters and others have pointed out, the difficulty about rights is less in getting people to agree as to what are rights than in making a reconciliation when two or more rights, each with its own legitimacy, are in conflict. Some rights may be considered as universal, but the only safe course when they seem to conflict is to consider none of them absolute. They are all contingent on circumstances, and on each other.

The feeling that parents have the right to do the best they can for their children is strongly held and there is no doubt that in general this is socially desirable. But how far can we go? Do parents who are members of certain religious sects have the right to refuse to call in a doctor when their children are suffering from an infectious disease? What about the rights of the children themselves? And what about the right of other people to be protected? There is no need to invoke an extreme case, such as the possible right of a mother to steal food if her children are starving, to see that neither society nor parents can take an absolute position. What criteria might we use in effecting a reconciliation in a particular case?

Most people would want to know, first, how far what the parents did hurt other children. And secondly, we should want to consider whether the presumed unfairness was easily remediable by social action. If a child is born into a good home (whether a good home in respect of its cultivated tastes and means to enjoy them, or just a good home without such means) this gives him an advantage; but it is not an advantage against which society would wish to take action directly. The most that society can do, short of what all would consider injustice, is to provide such compensating opportunities as it can for other children. But there is on the face of it less reasonableness in an institutionalised privilege which gives a boy advantages simply as a

member of a kind of club. Once again, the institution of fee-paying schools is not doing the children who do not go to them direct harm; but it is much more arguable than in the case of the home that a social advantage is given, and one that could somewhat more easily be remedied.

However, I am not concerned here to put forward solutions to what are in practice often very intractable problems. I am only indicating the terms in which the answers must be given. These are not simply social terms, for parents will continue to think of the educational potentialities of their individual children. Nor are they simply educational terms in the narrow *Times* sense of the word. If you bring up a boy, however well taught he may be, to think of himself as belonging to a responsibly superior group distinguished by an identifiable speech and style of life then you have made both a social and an educational judgment. Analysis of the terms in which the answers may be made is the proper business of the social philosophy of education.

The problems arising out of consideration of the three imaginary statements I have given indicate how great may be the practical importance of theoretical discussion. Theoretical discussion itself, even though it may deal with questions that might be asked of almost any system of education in any society, is likely to take on the tinge of its times, and it may sometimes be difficult to decide whether a writer is simply discussing a theoretical point that has taken on special urgency in his own time or whether in selecting it for treatment he has himself made a value-judgment as to its importance. This is, for example, true of our preoccupation with the role of the school in promoting a sense of cultural community, and this in turn goes back to the underlying discussion of the relation of the Individual to Society as it has presented itself in recent times.

Our perennial root difficulty arises from the fact that the terms Individual and Society do constitute a partial, but do not constitute a complete antithesis. Percy Nunn, whose *Education, Its Data and First Principles*, was criticised because it stressed the Individual too much, said that he was of course familiar with the trite observation that Man was a social animal. No doubt he was, but he did not pursue the implications of it very far. He seems to think that he has really said something, that he has clinched an argument, when he uses phrases like "Individuality is the ideal of Life". What precise meaning can one attach to such an "O altitudo"? As we all know, this criticism of Nunn was developed by his successor at the London

Institute, Fred Clarke, and no doubt his attitude commends itself more to us now. But it must be admitted that his *Education and Social Change* is a slighter work than Nunn's and even less philosophical. Karl Mannheim, the first Professor of the Sociology of Education in this country, commenting on their two views, said (3): "These two perspectives do not exist in the stark opposition in which I have outlined them. There is a third way which integrates the valuable elements in both schemes. According to this view an individual is not an abstracted personality but develops as a social self in the society which exists at a certain time in history. . . . Society is not a mechanism out of which the individual makes his own life. It is the stuff out of which a large part of his very self is woven."

What obvious sense! How is it then that we have not by now provided ourselves with a theory that gives a coherent account of the interplay of the individual and society in relation to education? Mrs Floud, in her turn head of the work in the sociology of education at the London Institute, discussed this in her paper "Sociology and Education" read at a Conference at the University of Keele in 1961 (4). Mannheim, she notes, was an enthusiastic advocate of the social role of education in an industrial society, but gave only the most general indications of the practical implications of what he said. He was trying to excite future teachers about the importance of sociological thinking. He really did not furnish very much of a sociology of education. For this, says Mrs Floud, we would do better to turn back to Durkheim, who was seriously interested in pedagogical problems as well as being a sociologist. What Durkheim and Mannheim had in common, she points out, was a deep concern that the role of education in the integration of a society should be understood.

But it is not well understood. What, we may ask, has got in the way? Mrs Floud, from her point of view, suggests that our attention has been diverted (even though necessarily diverted) by two things; and after referring to these I should like to suggest a third cause of our insufficiency. Mrs Floud says that our attention has been diverted first to the relationship between education and the class structure of our society, and second to its relationship with the national economy. These two things are themselves related. Technological progress depends on the development of skilled, but differentiated, manpower, and hence on the capacity of the educational system to provide such manpower. In developing to meet the newer needs of society education may act as a solvent of some of the older class distinctions, but it erects new ones; in shorthand terms,

we may be moving from aristocracy to meritocracy. And this happens at a time when educational institutions are being called upon to take over more and more of the educative functions of the primary social groups such as the family. So although sociologists and economists have helped us to understand the relation of education to the class structure and to the national economy, we are as far as ever from having a theoretical basis for considering the role of education in giving us a common culture. This problem, as Mrs Floud says, has become more difficult since education is now not a simple corollary of class or status position, but increasingly a determinant of it. "The problem is to achieve moral consensus in the face of the unavoidable fragmentation of social experience brought about by occupational specialisation."

This seems to me true and important; and I think Mrs Floud's proposal that we should pay more attention to the nature of educational societies themselves (such as the school and the university) will contribute to our better understanding. But I do not think that it is enough. There is a gap which can only be filled by the development of our social philosophy of education. We cannot make sensible comments on the role of education in promoting "moral consensus" in our own society without the sociologist; but since value-judgments are involved (if only as to how important we feel such a sense of community to be) understanding depends on our social philosophy of education just as policy will depend upon our preferential social thinking about education.

Why, so far as the social philosophy of education is concerned, have we reached an "impasse"? I suggest that a major reason may well be the disarray into which liberal but social-minded thinking about education has been thrown by the experience, first of Fascist and Nazi authoritarianism, and secondly by continuing Communist authoritarianism. A backward glance to what Durkheim said before either of these phenomena was known will help to elucidate the point.

What happened to the movement of thought that Durkheim started? He insisted on the role of education in giving society cohesion in spite of its divisions. He saw that if the norms of the France of the Third Republic were to take root in men's minds this must be in large part through the school system that republican France had created. He realised that mere catechising externally would not do. Moral and social education must be such that the individual must "internalise" the norms of conduct so that he accepted them freely. France had freed itself from a clerical domination in education that

had been the ally of the old order. In education, for Durkheim (and he actually used the comparison) the schoolteacher must be the lay priest of the newer order.

Read now, this is faintly disturbing. Internalising the norms of conduct through education has a slight air of brain-washing about it, and although it is fair to Durkheim to recall that he said that education must be ready continuously to adjust itself to new needs, and though no doubt he would have said that for this the critical spirit was necessary, still one is uneasy. Does not the conception of the schoolteacher as the priest go too far? One must not be unhistorical. But there are passages in Durkheim, acceptable as they might have been when he wrote them sixty years and more ago, that make us shudder now that we have had experience of such ruthless use of state power. Just as Tennyson could not have written "In Memoriam" to celebrate his love of Arthur Hallam if his public had been as self-conscious about homosexual tendencies as ours is, so Durkheim could hardly have written some of his paragraphs had he had to live through our times. Let me give an example.

Education (said Durkheim) is the influence exercised by adult generations on those that are not yet ready for social life. Its object is to arouse and develop in the child a certain number of physical, intellectual and moral states which are demanded of him by both the political society as a whole and the special milieu for which he is specifically destined (5).

And with this we should consider another statement: "There is no man who can make a society have, at a given moment, a system of education other than that which is implied in its structure" (6).

The logical sequence is plain. First, a given state of society. Then a system of education that reflects this society. Then a new generation that through its education has been induced to accept this society and its norms and may be relied on to perpetuate them. Yet what else would any of us wish to happen? It isn't that the thought is wrong—just wrong. Of course it is not. It is that the tone is frightening, and our own historical experience has made us beware of talking like that. The implications are disturbing, whatever the logic. For Society, we feel, Durkheim was perfectly ready to read the State. And the State would decide an awful lot of things. Children would be "specifically destined for a special milieu"—class stratification at the worst, meritocracy at the best. If this is what education as "socialisation" would mean, some of us might feel that this was educating for the wrong society.

These quotations from Durkheim can be capped from the English

nineteenth century. This is what Arnold of Rugby said in his Inaugural Lecture as Regius Professor of Modern History at Oxford (7):

There are certain principles which the State wishes to inculcate on all its members, certain habits which it wishes to form, a certain kind and degree of knowledge which it wishes to communicate; such, namely, as bear more or less immediately on its great end, its own intellectual and moral perfection, arising out of the perfection of its several members. Now . . . as far as this instruction is applied to the young, it goes under the name of education; as far as it regards persons of all ages, it generally takes the form of religion.

To our ears this is monstrous doctrine: state worship with clerical reinforcement. And if you substitute "Marxist materialism" for the notion of religion, totalitarian Communism. Yet such comments would be quite unhistorical. No doubt when he said these words Arnold did not strike his hearers as like that at all. But he does now. What has happened? Obviously, references to the power of the State in a country where the norm is individualism and the economic system based increasingly on *laissez faire* are one thing. Similar references in a world that knows totalitarianism are another.

Until comparatively recently in this century no great difficulty was forseen by liberal educationists in reconciling what they wanted in education with the demands of an increasingly planned society. Indeed, the progressives were often those who asked for more planning in society generally and not least in education. They still are, and there is nothing necessarily wrong in this. But there is a problem. Through our historical experience we are much more conscious than we were that there are indeed different ways of planning. Planning can be dictatorial, or bureaucratic, or democratic—and each one of these words needs careful spelling out. In our present position in the world we have to plan, and to plan much more, for *laissez faire* and anarchy and the squandering of our physical and human resources are not acceptable alternatives. But we have to decide at every point which are the real and essential freedoms (in the universities, for example) and which are the real and essential needs of society before which the individual may reasonably be expected to give way. In an open and democratic society one does not plan with absolute categories; one seeks always the right resolution of forces.

We all have to think this out. It seems to me that there is an increasing need for the teaching profession, in the schools and universities together, to think of itself as an Order, collaborating respon-

sibly with central and local government (and indeed with industry, public or private) but on terms that preserve its identity, and with a fierce sense of professional independence. We are the custodians of values that society can ill do without and that if we do not assert no one else except lost and isolated individuals will. Perhaps the greatest asset we have is the pluralist tradition of this country, for here, although we know that the State is important, we do not confuse the State with Society. However that may be, it is particularly incumbent on us, with a social philosophy as refined as we can make it, to clarify our thinking about society and education.

Here indeed I am tempted to cross the borderline between what, in deference to my philosophical colleagues, I have called the social philosophy of education, and, what more broadly I have called social thinking about education. (I rather suspect that almost all the writers I have referred to have in fact done this before me). I agree, in general terms, with what Durkheim, Mannheim and Mrs Floud have all in their varying ways said, that the role of education is fostering a sense of community in our society is especially important. If you ask why I think such a sense of community important I do not have to relapse into a mystique. Those of us who share this anxiety could give good reasons for it. But what they would come to, if we succeeded in our persuasions, would be a demonstration that life is better in such a community than in one that is basically stratified. Ultimately this is a matter of values, of what in living we value more and what less. The short answer of anyone who escaped from Fascism or has escaped from a Communist régime is that he could not breathe in that air; and I suppose that the short answer of someone who escaped the other way would be the same. But this does not mean that elucidation of their respective values is unprofitable, nor that expectations may not be checked against experience.

In contemporary England, though we do not have a simple two-nation society, we do have a society that is highly differentiated into a whole series of different status groups. But in our educational arrangements, and particularly in the division into a public and a private sector, we are virtually still in the two-nation stage, with subdivisions into status groups within each. More broadly, do we want a common culture? I mean by that, not that we should all subscribe to what is most popular, but a varied culture supported by a society to which we feel we belong in common more than we show in our manners and behaviour that we do now?

This, for all who value social life, is a problem we have to work

out in the particular form in which it comes to us in a technological and planning age. We cannot do so without taking education very much into account. What I have argued is that our social thinking about education is going to be extremely important in the years ahead. I do not believe that we shall move forward to satisfactory solutions of our problems unless our teachers share in this thinking out and in this working out. This means thinking about our theoretical basis when we study Education, making our value choices with greater understanding of the alternatives, in a word developing a science-aided but value-based social philosophy of education.

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SOCIAL STUDIES IN SECONDARY SCHOOLS

by CHARMIAN CANNON

*Lecturer in the Sociology of Education
London University Institute of Education*

I. HISTORICAL SURVEY

EVER since the Hadow Report's tentative statement "The general character of the teaching should take account of the pupil's natural and social environment" (1), successive reports on the secondary school curriculum have recommended that the education of adolescents should be more directly related to the realities of modern industrial society. In the post-war period such pleas have become more forceful and specific as in the N.U.T.'s proposal in 1952, that children should study "life in the community, the growth and establishment of customs, of the material factors on which it depends for its existence, of the relationship between the individual and the community, and of the economic, social and cultural relationships of national and international communities" (2); a task which calls for a comprehensive course in the social sciences.

There seem to have been two main motivations behind this desire for more social relevance in the curriculum; the desire to educate citizens for democracy, and the sometimes dimly felt urge to equip young people to cope with the complex environment in which they will find themselves on leaving school. One or other of these is dominant in the literature at different periods. Starting during the 1930s, increasing during the crisis of war, and reaching its peak in the immediate post-war period, public discussion was preoccupied with the challenge to democracy. As is usual in such circumstances, education was expected to save the nation by producing the right values and attitudes (3); thus in 1945, "totalitarianism has convinced of the need to make future citizens love democracy, the need for faith in the democratic ideals of freedom, justice, kindness, self-sacrifice and truth must be brought out over and over again" (4). Young citizens must not only be loyal to democracy, but must be educated for world citizenship by the cultivation of an international

outlook; for "we have reached a crisis that may bring civilisation down" (5).

The second view, that young people need to be more adequately equipped for modern life, has been part of the general post-war preoccupation with the problems of adolescence which has accompanied the growth of youth culture in the affluent society. There are several levels of argument here; first, the practical one, that school-leavers should be aware of the facilities and opportunities of their local community; second, there is the stress on the inculcation of fixed standards in a world of shifting moral values (6); and third, the belief that it is possible to educate for social change in a more direct sense by encouraging the flexibility necessary to profit from and guide new social movements (7).

In the immediate post-war period, many of these suggestions were based on a somewhat superficial analysis of the social situation of youth, but they were lent increasing urgency by the establishment of "secondary education for all" in 1944, the raising of the school leaving age, and the increasing focus on further education, all of which presented educationists with the problem of retaining the involvement in their schooling of non-academic adolescents looking forward to the adult world.

There has thus been some broad agreement about the ends to be sought by the new approach to education, but the means were not so clear. Some writers did not presume to make practical suggestions but left the approach to the imagination of the teachers. There was a solid body of opinion, dominant in the pre-war period, but not restricted to it, who took the "traditional" view; that preparation for life would be best achieved through the conventional subjects wisely taught, and citizenship developed through its practice in the microcosm of the school community. The Norwood Report was perhaps the supreme example of this approach; the claims of new subjects to equip pupils for modern life, were rejected in the report on the ground that children could not be forced into experience beyond them, and were not ready to think as citizens; "the most valuable influence for developing that sense of responsibility without which any amount of sheer information is of little benefit is the general spirit and outlook of the school—what is sometimes called the 'tone' of the school" (8).

In the post-war period the traditional approach still had its advocates, but there was an increasing expression of the opinion, only tentatively expressed earlier, that the content of traditional subjects should be selected with a greater eye to its relevance, and

that subject-barriers should be broken down to produce a new synthesis. The Ministry of Education pamphlet *Citizens Growing Up* saw history and geography "as the answer to the how and why of the local corporate life and of the national corporate life which is the subject matter of citizenship", but it carried further the tentative suggestions of Hadow, that these should be made relevant through local studies and practical work (9) and carried this approach into its discussion of other parts of the curriculum.

This synthetic idea reflected, besides the motivation to introduce social relevance into the curriculum, the "progressive movement" arising from the pragmatic influence in the 1930s; this was concerned to introduce a method more suited to the finding that children learn through experience rather than by the passive reception of facts. Subject barriers were looked on as artificial and the attempt was made to replace them by a series of "topics" arising from the children's interests and drawing on material from all subject areas.

The third approach to the problem came from those who advocated the addition of new subjects to the curriculum, specifically selected for their social relevance: the Association for Education in World Citizenship as early as the 1930s advocated the addition of Economics and Politics to the curriculum and rejected the assumption that one could expect an automatic "transfer of training" from the traditional subjects (10). In an interesting post-war investigation the Association surveyed experiments in the inclusion of Psychology, Politics, Philosophy and Logic in the sixth forms of grammar schools, and their relevance for the General papers of "A" level (11). The weakness of this approach lay in its practical application to the already overcrowded time-table of examination dominated secondary schools.

2. SOCIAL STUDIES

The culmination of the "synthetic" and the "additional subjects" schools of thought was to be found in the Social Studies movement of the immediate post-war years. It was reflected in official publications, text-books for teachers, and articles in journals; and in the curricular experiments of the secondary modern schools which were supposed to be providing the "New Secondary Education" untrammelled by examination requirements.

The tone was set by the post-war Ministry of Education pamphlets which advocated a freer approach to the subjects of the curriculum with citizenship in mind (12); and a new approach to method through the project, which involved "the collection and collation of facts, the

consultation of sources of knowledge, the interpretation of evidence, the establishment of principles from particular examples, the analysis and synthesis involved, the realisation that the requirements of an investigation demand at some stage the mastery of a technique before further progress can be made": a method which has come to be identified with Social Studies (13).

The synthetic approach was reflected in texts such as Nicholson (14): "What we now call Social Studies . . . is a synthesis: a broad highway to a working knowledge of Life in its widest sense. The quality of Social Studies differs from the isolated subject teaching . . . in being Discovery . . . of those aspects of life related to the experience of children." But perhaps the most extreme exposition was to be found in Hemming's *Social Studies for Secondary Schools*. His Social Studies "combine the material of History, Geography and Civics together with relevant material from other subject fields, into a single integrated background course" (15).

The most disciplined statement of the need for Social Studies was however to be found in the Council for Curriculum Reform's answer to "the well-meaning platitudes" of the Norwood Report (16). The whole aim of their report was "to make the content of our education more relevant to the present age" (17). The criterion for the inclusion of any subject matter in the curriculum was to be its relevance to meet modern social conditions and probable future trends. On this basis the Social Sciences were assured of a prominent place; they were to be based on general Social Studies taught by topics in the lower part of the school, giving way later to history taught for its relevance to modern life, economics, politics and social ethics (18).

The concern of practising teachers over these new approaches was reflected in articles on their difficulties and experiences in teaching Social Studies, and in books about the work of specific secondary schools (19).

3. THE FAILURE OF SOCIAL STUDIES

This period of post-war enthusiasm and experiment had faded by the mid-1950s, by which time many schools appear to have returned to a traditional curriculum. The reports of several overseas teachers who came to this country to observe the teaching of social studies, were unanimous that there was a general air of disillusion and discontinuation of such teaching (20). One of these reports that replies he received from 30 Education Officers reflected the opinion that Social Studies was losing ground (21), and many teachers are

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reported to have returned to the more traditional approach after only brief experiment. "A good many alternatives to 'straight' history have made their appearance in the last decade or two, though not so many have survived" (22).

What were the reasons for this failure of the new courses to become an established part of the curriculum? Most important probably were the social and economic pressures which led to an increasing concern for standards, and in particular to their expression in examination qualifications. Since 1947 there has been a steady increase in candidates for external examinations coupled with the growth of specialised and extended courses. These may be seen partly as an attempt by the secondary modern schools to close the "status" gap dividing them from grammar schools, and partly as a response to the occupational demands of society (23). The trend culminates in the recent acceptance of the Certificate of Secondary Education at a level lower than G.C.E. which is a reversal of the ideals expressed in the immediate postwar period.

Further reasons lay in the amorphous nature of "Social Studies" itself. We have already seen how it had taken the form of a synthesis of existing subjects, a new approach to method, or the addition of one or more of the social sciences to the curriculum. Any teacher might be excused if he felt overwhelmed by the prospect of giving a child "a complete and rounded understanding of his environment, how it came into being, and how he may establish relations with it". This aim, put forward in a contemporary text, was seen to involve a content of twenty topics, ranging from "The Pattern of the Universe" . . . to "the way forward from mankind", by way of "the development . . . of human society from prehistoric times . . . the rise and fall of civilisations and struggle between powers, growth towards unity, man as an individual and social being" (Point 4) (24).

The content of Social Studies was thus variously defined, and sometimes included "social education", sex education, and religious education (25). It was all things to all men, and its supporters claimed that this was its virtue, because its lack of definition made it suited to a changing world (26), and anyway it was a "technique of teaching an attitude of mind" (27) not a body of knowledge.

The subject was as all-embracing in its aims as in its content. Hemming drew up a list of 10 objectives, of which No. 6 was "to foster the development of spontaneity, self-reliance, flexibility of mind, clear thinking, tolerance, initiative, articulateness, adventurousness of outlook, courage in the face of new problems, enjoyment of

creative activity, sound standards of action and appreciation, world-mindedness, a sense of purpose, and a philosophy of life" (28). Most advocates are less ambitious, but put foremost among their aims the need to educate for citizenship, and to integrate young people into the community. The Council for Curriculum Reform draws a parallel with the primitive rites of initiation, in seeing the purpose of social studies as "social initiation" into the community and the democratic way of life (29).

The teacher faced with such aims and subject-matter was in a worse predicament as he was rarely trained for the task. He was likely to be a conventionally trained historian or geographer, very rarely a sociologist or social anthropologist, and often a general subjects teacher in a secondary modern school. But the enthusiasts for Social Studies told him not to despair; "the qualities required in a teacher of Social Studies are personal rather than academic. The chief requirement is a fervent belief and interest in life and man, and in youth as the growing point of civilisation" (30).

While these reactions against over-specialisation and the often arid method and content of traditional teaching deserve some sympathy, it is not surprising that teachers found the new ideals hard to follow (31). There was plenty of criticism of the Social Studies to be found in the writings of historians and geographers of the post-war period (32), who saw the new proposals as a threat to the integrity and status of their own subjects; and some (but surprisingly little) disquiet from sociologists who deplored the lack of that discipline which their own subject could have lent to the new approach (33). One can only conclude with one writer in 1950 that "Perhaps Social Studies has raised its voice too loudly before it was confident that it knew what to say" (34).

A final reason for the failure of Social Studies; because of the vagueness of its content, and its crossing of traditional barriers, combined with the increasingly rigid examination structure, the new experiments were mostly confined to the younger and less academic pupils; for them the new method if not the content, sometimes provided a more positive motivation towards school; but a subject thus identified with the "non-academic" child has little chance of success in the English education system.

4. THE PRESENT POSITION IN SOCIAL STUDIES TEACHING

In recent years there have been many restatements of the need to relate the curriculum to modern society; perhaps the most sophisti-

cated example is to be found in the Crowther Report's analysis of the social situation and needs of the post-war adolescent (35).

The modern justification has changed its emphasis; there is no longer the feeling of post-war urgency which led to insufficiently thought out pleas for citizenship education; rather the problem is seen in terms of helping adolescents to deal with the complexities of their social situation, and in particular to withstand the pressures of the mass media. Thus, the evidence to the Newsom Committee though very varied in practical suggestions, is almost unanimous in this: "... young people ... can hardly be aware of all the pressures that are brought to bear on them through the media of mass advertising and mass entertainment. It is the clear and urgent duty of social education to develop their critical faculties and exercise their powers of discrimination" (36).

In spite of these advocates, it is clear that at the moment little is being done to implement the need for a contemporary approach. There are some interesting experiments in comprehensive schools, but these tend to lack guidance and unity, and are too often confined, as previously, to the less able children in the middle school; for the examination pressures which helped to bring the downfall of the earlier movement towards Social Studies, are no less evident to-day. A survey of the curriculum of non-selective secondary schools in south-east England, after a fervent plea for relevance, and a recognition of the possibilities for building a curriculum around 'the rich complexities of modern life' (37), still concludes that, "Content and method ... remains largely traditional, with the assumption of transfer to the contemporary scene" (38).

5. THE TEACHING OF THE SOCIAL SCIENCES IN SECONDARY SCHOOLS

So the field is wide open; but if the gap between school and life is to be bridged, and the pitfalls of earlier attempts avoided, the following conditions must be fulfilled:

(1) The work must have a well-defined content which can be adapted for pupils of a wide range of ages in a variety of educational situations.

(2) It must possess enough academic rigour to avoid Riesman's cogent criticism of American courses, that they are "sheer piety or ... social slops" (39); an accusation which is unfortunately also relevant in England.

(3) The aims must be clearly thought out and conceived in less

manipulative terms than good citizenship, or "education for identification" (40).

It is suggested that these requirements can be fulfilled by the introduction of the social sciences into the schools (41), the content being selected from whatever is applicable at the school level, of the social sciences as taught in the universities. Although the boundaries of such content are not clear (any more than the boundaries of older established subjects) they would include social psychology, social history, social and political philosophy and social economics. The core lies however in sociology and social anthropology, and the method followed would be essentially the same as at university level, that is, it would not allow the pupil to escape from the difficulties of trying to apply a scientific rigour to the study of societies.

Some of the subject matter of such a course has been included in earlier "Social Studies" syllabi, but it has been blurred by the inclusion of so much else, and rarely approached in a disciplined way; in fact one has the impression from studying the literature, that many of the advocates of a more relevant curriculum have been groping towards the content and methods of sociology, but have stopped short of it because they were not aware that a disciplined approach to such content existed. This is hardly surprising when sociology has only so recently established itself even at university level, and the supply of sociologists in the schools is still negligible (42).

It may be complained that the range of material is still vast; but it should not be difficult to derive from it more limited syllabi, suited to the interests of children of different ages and abilities, which would avoid on the one hand the narrow dreariness of many "local studies", and on the other the nebulous vastness of the world and the universe; for example a valuable introduction to contemporary society would be afforded by the study of comparative social institutions, social stratification, and the social structure of contemporary Britain. It would thus introduce subject matter which is of immediate relevance; but would make extensive use of comparative material, both historical and from different societies.

The teachers would attempt to fulfil specific aims, more modest than those of Social Studies and thus more capable of attainment. It would of course be an admirable vehicle for practical and group methods, but these are not to be equated with social science, which can in fact be taught in a highly academic and individualistic manner. It would also satisfy the need, now firmly established, to replace a vague "hope of transfer" by a direct study of contemporary society;

it would, moreover, not only bridge the gap between school and society, but between the arts and the sciences; and is therefore an essential "3rd-voice" to add to the controversy over the "two cultures".

"Clearly schools must do everything in their power to help these young people to become literate and numerate . . . where the Crowther Committee added *numerate* to *literate*, we would add *sociate* to both . . ." (43).

As far as relating young people to society is concerned, the emphasis on "integration" and "identification" must be changed to what Mannheim called "social awareness". This by no means implies acceptance of society as it is, but seeks to establish the ability "to see the whole situation in which one finds oneself, and not only to orientate one's actions on immediate tasks and purposes, but to base them on a more comprehensive vision. One of the ways in which awareness expresses itself is in the correct diagnosis of a situation . . ." (44).

The task of the teacher therefore, is to present, or show children how to discover, a wide range of facts about society and their own position in it; the teaching would help them to distinguish between facts and opinions, and reveal the gaps in our knowledge which have yet to be filled. The values the pupil forms are finally his own concern, but the teacher must try to see that he has the facts upon which to base them, and can distinguish which are most relevant to the decisions he must make (45). This aim is difficult enough to achieve in a highly stratified society in which the children arrive at school "crammed full of values . . . but very shy on facts" (46). But they will only be at all possible, if throughout the work, stress is laid upon the methods of the social sciences. As long ago as the Spens Report, a plea was being made for "a stress on logical thought and scientific method", but this was in mathematics and science; the social sciences apply such rigour to society itself, and it is in this field that pupils must appreciate it. This does not mean that the subject will be reduced to statistical tables, for it would be an arid approach to society which ignored historical and literary sources, and the use of the "sociological imagination"; but the pupils must be made aware of the limitations, as well as the insights to be gained from such material, and constantly brought face to face with the complexity of the evidence needed to come to any conclusions about the functioning of societies.

A knowledge of the techniques of the social sciences becomes of

increasing importance in a complex society which constantly employs them in its practical affairs. The Crowther Report reiterates that "knowledge and discrimination are necessary pre-requisites of a democratic community" (47). This must also involve the ability to analyse the term "democracy", question its assumptions, and recognise areas of society in which it fails to operate. In this sense only, social science teaching can claim to be education for citizenship.

These aims can only be achieved if the subject is taught, at least to older pupils, by specialists; that is by teachers trained at university level (and later by the provision of good training college courses) in the social sciences. This is not to say that an able historian, economist or English specialist would not have much to contribute (indeed it is through history and English that progressive teachers are already beginning to introduce a sociological perspective): nor is it to decry the tendency to break down narrow specialist boundaries which is becoming the hall-mark of the new universities; but only to claim, as do other academic subjects, that the work must be guided by those who have become aware in sufficient depth, not only of the content of social science, but of its philosophical background and distinctive method.

Finally, the justification of teaching any subject at the school level, must lie in its value as a liberal education. Social science has all the necessary elements: a subject matter which is not only increasingly relevant, but intrinsically fascinating; a tradition of classical works as worth studying for their contribution to man's thoughts on the human conditions as are the classics of literature; and a disciplined approach which is the essence of liberalism. For the extent to which a field of study contributes to a liberal education depends finally on the way it is taught.

"To the extent that a student becomes aware of the methods he is using, and critically conscious of his presuppositions, he learns to transcend his specialty and generates a liberal outlook in himself" (48).

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1. Hadow Report (1926), p. 107.
2. N.U.T., *The Curriculum of the Secondary School* (1952), p. 50.
3. A parallel situation arises out of the decline in religious observance since the nineteenth century. Politicians and religious leaders have sought to stem this, and to solve many other social ills, by the establishment of religious education in all state schools in the 1944 Education Act.

4. The Council for Curriculum Reform, *The Content of Education* (1945), pp. 177-78.
5. *Citizens Growing Up* (Ministry of Education, 1949), p. 19.
6. *School and Life* (Ministry of Education, Central Advisory Council, 1947) is a good exposition of this concern with changing values. See Ch. VII, "The Moral Factor".
7. Mannheim, K., *Diagnosis of Our Time* (1943).
8. Norwood Report, *Curriculum and Examinations in Secondary Schools*, (1941), pp. 56-59. See also the Spens Report, *Secondary Education with Special Reference to Grammar Schools and Technical High Schools*, XXXVII (1939). Economics is considered beyond the capacity of pupils under 16, p. 179, and the discussion of current political questions is considered undesirable. p. 174.
9. *Citizens Growing Up* (Ministry of Education, 1949), pp. 25-30.
10. *Education for World Citizenship in Secondary Schools* (Association for Education in World Citizenship, 1935). This association gave evidence to this effect to the Norwood Committee; it was dismissed in these terms. "Much evidence has been submitted . . . which urges the claims of many subjects . . . running through these pleas is a common element, that education shall equip pupils to meet the conditions amid which they will later live their lives" . . . p. 56. The claims of these can be met . . . "in so far as it is desirable" . . . through a reconsideration of the content in History and Geography. They conclude that new subjects are not necessary in the curriculum. p. 59.
11. *Sixth Form Citizens*. (Association for Education in World Citizenship, 1949).
12. Ministry of Education Pamphlets. *Citizens Growing Up* and *School and Life*.
13. Ministry of Education Pamphlet No. 9. *The New Secondary Education* (1947). See also Dray and Jordan, *A Handbook of Social Studies* (1950)—"something happening to pupils and teachers and not merely something studied by them", p. 23—and Hemming, *Teaching of Social Studies in Secondary Schools* (1949). He is critical of courses which define Social Studies as a subject with a defined content, instead of a specific educational function. p. 19.
14. Nicholson, F. J., *Some suggestions for Teachers of Social Studies in Post-Primary Classes* (1949), p. 5.
15. Hemming, James, op. cit. (1949), p. 154.
For other expressions of this view, see:
Brimble and May, *Citizenship and Social Studies* (1943).
Journal of Education, Nov. 1950, V. K. Wright, "Social Studies in the Classroom", p. 602.
McNicol, M., *History, Heritage and Environment* (1946), p. 47 and Chs. 3 and 4.
Dray and Jordan, op. cit.
N.U.T., op. cit. (1952), p. 54.
16. Council for Curriculum Reform. *The Content of Education* (1945). The Council was formed from the Association for Education in Citizenship and the New Education Fellowship in 1940.

17. op. cit., p. 7.
18. op. cit., Ch. X. The Social Sciences.
19. See: *The Journal of Education*. May 1948. Nov. and Dec. 1950.
Happold. *Citizens in the Making* (1935); *This Modern Age* (1939) (a pioneer of Social Studies).
Greenough and Crofts. *Theory and Practice in the New Secondary School* (1949), pp. 117-24.
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20. For example:
Moore, E. R., *Teaching of Social Studies in English Schools and Teachers Colleges in 1935* (Associateship Report, London Institute of Education), pp. 20-21.
Olivier, S. P., *The Scope and presentation of Social Studies in England. Associateship* (London Institute of Education, 1953-4), pp. 138-41.
21. Olivier, S. P., op. cit., p. 138.
22. R. D. Bramwell, *Social Studies*, p. 117 in *A Handbook for History Teachers*, ed. Burston (Methuen 1962). This return he reports was supported by a change of view expressed by the Ministry of Education in Pamphlet No. 23, 1952, *History in Relation to Civics and Social Studies*, p. 37.
23. See Taylor, W., *The Secondary Modern School*. Chs. V and VI for a detailed analysis of this change in approach.
24. Hemming, op. cit., pp. 46-47.
25. Brimble and May, op. cit., 1943; for these writers Social Studies was the total curriculum, including religious education.
26. Wright, V. K., "Social Studies in the Classroom", *Journal of Education* (Nov. 1950).
27. *Times Educational Supplement*, 29.1.54, Report of discussion meetings on Social Studies. See also Hemming, p. 20; Dray and Jordan, p. 23.
28. Hemming, op. cit., p. 25.
29. Council for Curriculum Reform, op. cit., pp. 147-49.
30. Hemming, op. cit., p. 134. See also McNicol, op. cit., p. 49. "The specialist . . . is the chief obstacle in the way of adopting the plan." And *Times Educational Supplement*, 29.1.54.
31. Taylor, W., op. cit., p. 111.
32. See Burston, W. H., "Social Studies and the History Teacher" (1954).
Historical Association Teaching of History Leaflet No. 15. Royal Geographical Society, Education Committee, (1954). *Journal of Education*, May 1948, Scarfe, N. V., "Social Studies", p. 241.
33. *Journal of Education*, Nov. 1950, Farquharson, "Social, Local and Field Studies", p. 593.
Journal of Education, Dec. 1950, Stewart, W. A. C., "Social Studies: A resume", p. 657.
34. *Journal of Education*, Dec. 1950, Stewart, op. cit., p. 658.
35. "15-18", Report of Central Advisory Council for Education (1959), Vol. I. Part I, and Part IV, Ch. 17.

36. L.C.C. evidence to Newsom Committee (5.12.61), p. 255.
See for similar statements: T.U.C. evidence, p. 22.
W.E.A. Memorandum of evidence, p. 23.
and the evidence from the A.T.C.D.E. and
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37. "Survey of the Curriculum of some Non-Selective Secondary Schools in S.E. England. A Summing Up." Institute of Education, London University: *Studies in Education*, p. 20.
38. op. cit., p. 17.
39. Riesmann, *Constraint and Variety in American Education*, p. 114.
40. "Progressive sections of industry are finding that efficiency and happiness at work are greatly increased . . . by 'education for identification'." Council for Curriculum Reform, op. cit., p. 4.
41. The title is irrelevant; they could just as well be called "Social Studies" (as indeed they are in some universities) except for its unfortunate history.
42. This is partly of course because they have had nothing to teach in the traditional curriculum.
43. L.C.C. evidence to the Newsom Committee, op. cit., p. 252.
44. Mannheim, K., op. cit., p. 61.
45. This does not mean that the teacher should necessarily try to divorce his teaching from his own values; but that in facing the tricky question of bias he has the duty of making his pupils aware of how he reaches his commitments, and the reasons why he remains uncommitted in certain fields.
46. Riesmann, op. cit., p. 116. This discussion referring to the American context, is also relevant in England.
47. "15-18", op. cit., Vol. I, p. 175.
48. *General Education in a Free Society*, Report of the Harvard Committee (1946), p. 64.

THE ATTITUDES OF TEACHERS AND THEIR PUPILS TO WRITTEN EXPRESSION

by C. I. RAPSTOFF

Senior Remedial Teacher, School Psychological Service, Birmingham

I. OBJECTS OF THE RESEARCH

SINCE Hartog condemned the teaching of written English in the schools as, "Writing anything about something for everybody" (1), and Robert Louis Stevenson contemptuously dismissed the composition lesson as, "sedulous aping of the great essayists", there has been a movement away from formal, imitative, essay writing towards development of the child's skill to express himself in writing, in a variety of social situations. The use of terms such as "expression" and "communication" rather than "composition", or "essay", are indicative of this trend.

From this changing emphasis and the claims of its exponents arose the research reported here. There were three main questions which the research was designed to answer.

- (i) What are the methodological attitudes of teachers to written expression in relation to the new approaches advocated by the educational and research literature?
- (ii) How do the different types of school compare in their responsiveness to these new ideas?
- (iii) How are the attitudes of pupils to written expression related to the methods and attitudes adopted by their teachers?

A questionnaire scaled according to the methods of Thurstone or Likert was considered unsuitable.

As Thurstone, Cattell and Sherif have observed, a person questioned on some intimate attitude, first appraises the question and then the intention prompting its being asked. As a result, they have shown, there is a discrepancy between the opinion as expressed in the open questionnaire and the attitude which is actually held (2, 3, 4). A projective technique giving the subject few clues as to what his

responses are expected to be, would avoid this failing. Sentence completion, in particular, seemed suitable for this purpose. It consists of asking the subject to complete with the first thoughts which come to mind, a number of sentence beginnings called stimulus phrases or stems. By this means the responses may be drawn to specific areas of interest although the neutral character of the stems leaves the subject free from actual or felt pressures to conformity.

Previous research has shown that where the stem is equivalent to a direct question on intimate attitude the completions are likely to be superficial, evasive, or even absent. Where the stem is too general it is unlikely to produce responses relevant to the chosen field of research. Somewhere between these two extremes lie forms of stem specific enough to act as clues to the field of interest and general enough to allow the subject freedom to express what would otherwise be covert attitude. Previous research into such subjects as, relations between parents and adolescents (5), attitudes of pupils to school life (6), and attitudes of students to the content of university courses (7), have shown that when this balance is achieved otherwise unobtainable data is revealed.

2. STEMS FOR TEACHER'S COMPLETIONS

1. *Composition is*
2. *Children should write only*.....
3. *Choice of subjects*.....
4. *Children should be expected to write in order to*.....
5. *Children should write after*
6. *The best method of securing improvement of written English*
7. *The best time for writing*.....
8. *Grammar*
9. *Text-books*
10. *Written expression should be judged*.....
11. *Marking*.....
12. *Corrections should*
13. *Spelling should*
14. *Handwriting should*
15. *Children write best about*

Stems 1 and 2 were designed to obtain the teacher's general concept of his work in this field, the term "composition", the most

commonly accepted term, being used despite justifiable objections.

Stem 3 and stem 15 gave an opportunity to express whether the teacher or the pupil chose the subject, or whether a general area was indicated in which the child had some freedom to express personal interests.

Stems 4, 5 and 6 were aimed at obtaining statements on the motivation for writing. Was the writing for a specific purpose; for a wall-newspaper, a project booklet, a book review? Did it follow a specific experience to which it was a necessary corollary? Was improvement related to frequent personal involvement in writing and the experience of its variety of functions?

Stem 7 gave an opportunity for the expression of the teacher's function in initiating educational situations and experiences which might constitute incentives to writing.

Stems 8, 9, 13 and 14 were to obtain the teacher's view of the relationship between the mechanical component skills of writing, and the ends of communication and expression. How was the content and difficulty of drills decided? Were they dictated by the shape of given text-books or was room left for instruction in those weaknesses which were currently revealed in the written work of the class?

Stem 10 invited the considerations guiding assessment. Was assessment of the effectiveness of expression and communication, distinct from assessment of formal correctness? Were techniques practised of children's aural assessment of each others' work, aimed at creating genuine situations of communication, and development of critical standards?

Stems 11 and 12 stimulated responses on the activities of marking and correction to ascertain whether they took a sterile or constructive form.

3. SCORING TEACHER'S COMPLETIONS

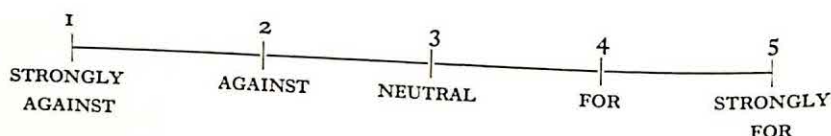
Following a study of the literature of research and methodology, criteria were established for judgment of the teacher's completions on a five point scale.

In relation to expression these criteria were; awareness of the motivation of the child for writing; assumption that the motive of communication could be educationally harnessed; recognition that audience situations were essential in genuine communication; supposition of a function for the child's writing; choice of topics and situations according to their interest for the child and their power to stimulate the urge to communicate.

In relation to the mechanical skills contributory to writing, these criteria were; recognition that grammar and punctuation are learnt best not as ends in themselves but as means to expression; acceptance that the nature and difficulty of these drills and skills was best derived from the work of the children themselves.

In relation to marking, evaluation, and correction, these criteria were; preference for practices obtaining active participation in assessment and self-correction; stress upon attainment of the goal of communication and expression to which formal correctitude is a means; recognition that heavy marking and correction may defeat their own purpose.

The teachers' completions were assessed according to these criteria on the five point scale as follows:



A statistical analysis of the differences in the responses between junior and secondary teachers appears below in Table I. As can be seen none of these differences are significant at the 5% level although some of them tend towards such significance. This lack of confidence in the results of the teachers' completions was a disappointment to the aim of the research which was to reveal a dichotomy of attitude between primary and secondary children related to a dichotomy of methodology of their teachers. The differences in children's attitudes were statistically confirmed, whereas the failure to do this in the teachers' samples might be attributed to the captioning of the questionnaire and the need to take the teachers into confidence about the general purpose of the inquiry. Hence the open nature of the questionnaire and the absence of distractive or camouflage stems may have tended to a diminution of differences.

If these differences were not statistically significant they were all consistent with the hypothesis that the secondary teacher pays less attention to the motivation of his pupils to write, tends to fix a topic or even a title rigidly, and rarely considers antecedent experiences likely to stimulate writing.

No secondary completions of stem 11, "Marking", considered unconventional methods of assessment such as class oral methods or self-marking according to stated principles. Similarly the view that grammar was a subject in its own right coupled with

belief in its value for transfer of training was confined to the secondary school completions of stem 8.

The completions by primary teachers of stem 5, "Children should write after", revealed the tendency to relate their pupils, writing to their interests and experiences, and endings to stem 13, "Spelling", showed greater willingness on the part of junior teachers to view spelling as a means to the end of expression from which it could be drawn and to which it could be linked.

4. SOME COMPARISONS OF COMPLETIONS

STEM 1
Composition is JUNIOR: a term I would prefer not to be used in connexion with written, expressive English. It has a flavour of formality which is not desirable in free expression. (3 points)

SECONDARY: is the written expression of a pupil's reaction to a given subject. (1 point)

STEM 2
Children should write only JUNIOR: when they feel they have a need to, or when a strong stimulus is presented. (4 points)

SECONDARY: after careful thought. (1 point)

The first and second completions of the secondary teacher ignore motivation and are subject-limited. The junior teacher vaguely suggests the importance of the child's motivation in his first completion and states it more explicitly in his second.

STEM 8
Grammar JUNIOR: should always be subordinate to expression. (5 points)

SECONDARY (1): . . . is an essential separate subject and should be taught assiduously. (1 point)

SECONDARY (2): should be taught very carefully. In this school not all pupils learn Latin. English Grammar and Geometry are the only substitutes for logical thinking. (1 point)

ATTITUDES OF CHILDREN TO WRITTEN EXPRESSION

1. Importance to educators

Psychologists have demonstrated that perception is related to the attitudes of the perceiver (4), and memory, to the personal significance of the material for the subject (18). The efficiency of learning which involves both perception and memory will also clearly be influenced by the attitude of the learner to the specific learning activity involved. Hence teaching methods engendering positive attitudes are likely to

TABLE I
DIFFERENCES BETWEEN MEANS OF SECONDARY AND JUNIOR TEACHERS' COMPLETIONS

	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	Stem 6	Stem 7	Stem 8	Stem 9	Stem 10	Stem 11	Stem 12	Stem 13	Stem 14	Stem 15	All Stems
X Score of 10																
Secondary Teachers	1.7	1.5	1.9	1.4	2.4	1.6	1.5	2.1	1.6	3.0	2.0	2.0	1.8	2.8	2.6	2.0
X Score of 18																
Primary Teachers	2.1	1.8	1.8	1.6	3.2	1.9	1.4	3.0	2.1	2.8	2.5	2.1	2.4	3.1	2.7	2.3
Differences between Xs	.4	.3	.1	.2	.6	.3	.1	.9	.5	.2	.5	.1	.6	.3	.1	.3
"t" Ratio	.102	.7	N.S.	N.S.	1.02	N.S.	N.S.	1.71	.85	N.S.	1.22	N.S.	1.81	N.S.	N.S.	N.S.
Approaching Significance*	*	*			*			*	*		*		*			*

* Stem 1 Composition is
* Stem 2 Children should write only
* Stem 5 Children should write after
* Stem 8 Grammar
* Stem 9 Text-books
* Stem 11 Marking
* Stem 13 Spelling should

cause more active and frequent practice and result in more effective learning.

Just as pleasant words are more easily learnt than unpleasant or neutral words (8), so it must also be true that vocabulary, accuracy of expression, fluency and imaginative creativity are related to the affective characteristics of the subject matter in particular, and written expression in general.

The attitudes of children to written expression are therefore of great interest and value to the educator, particularly if they can be shown to be related to specific teaching methods and attitudes. The results of this part of the research were derived from the sentence completions of 513 children, 256 of whom were from three primary schools, and 267 from neighbouring grammar and modern schools.

2. *Reasons for attitudes*

The completions were scored on a 5 point scale ranging from a highly positive to a highly negative attitude to written expression. Two conclusions emerged.

1. Though there were considerable variations between primary schools, positive attitudes prevailed.
2. Though there were considerable differences between grammar and modern school pupils negative attitudes prevailed. (These differences were significant at the .01 level.)

What were the reasons for negative attitudes? In primary and secondary samples a large proportion were the length of writing to be done and the resultant pains in fingers, hands, arms, backs and necks. Notwithstanding their physical immaturity the primary pupils were less conscious of fatigue than the secondary children. The completions gave evidence that limitations of the effects of fatigue were related to such psychological factors as involvement in the subjects about which the children wrote.

In the primary schools the subject was likely to be a strongly personal topic of the child's choice.

Secondary school completions revealed the demand of a formidable minimum of writing, and the practice in some forms of the grammar school, of writing all essays for homework. The contrast between the hand-made topic booklets eagerly and sometimes artistically made by the juniors, and the impersonal setting of a subject to be written about at home by the seniors, and later critically marked probably not in the presence of the writer, could be ascribed

only partially to the necessary differences of time-table and examination requirements.

Lack of interest in the subjects or titles was an important factor associated with negative attitude, to the extent of 14% of the secondary, and 6% of the primary samples. Frequently lack of experience of the subject is reported or incomprehension of the teacher's wishes in his formulation of the subject. Fear of lack of mechanical skills such as spelling or punctuation is another factor in negative attitude, showing a rise from the second junior year to the second secondary year after which it declines. The research was unable to offer any evidence on any relationship between this anxiety, the standards of skills, and inhibition of expression, but it became clear that stressing mechanical skills is an educational instrument which must be handled delicately.

3. *Choice of subjects*

In completion of stem 16, "The best composition I have written", no less than 39% of the secondary responses, in contrast to 19% of the primary referred to description or nature. In contrast 29% of the juniors referred to adventure, usually fantastic or imaginative, 13% of the secondary modern children and 6% of the grammar children to adventure or conventional themes such as robbers, detectives, shipwrecks and spacemen. The differences between types of school in these completions based on literature, namely, 18% of the grammar, 6% of the junior (all from one school), and 1% of the secondary modern, reflect syllabus differences due to requirements of the G.C.E.

In the grammar school completions there was little record of imaginative themes, unless related to personal motives or fantasy, nor was there mention of argumentative, discursive or persuasive writing. In all types of school autobiographical writing was popular, as were indirect autobiographical topics such as pets and hobbies.

CONCLUSION

The research supported the view that sentence completion is suitable for ascertaining the intimate attitudes of children to the processes of their education. It cast some doubt on its suitability to express the details of teachers' attitudes to educational method.

The investigation revealed a clear deterioration in children's attitude to written expression from the junior to the secondary schools. Whereas classroom observation and children's sentence completions

STATISTICS OF ATTITUDE TO WRITTEN EXPRESSION OF DIFFERENT TYPES OF SCHOOL

<i>Stem</i>	<i>Types of School Compared</i>	<i>Most Negative Responses</i>	<i>Level of Significance</i>	<i>Most Positive Responses</i>	<i>Significance Level of Significance</i>
Stem 2: <i>Composition</i> <i>is</i>	Junior V Secondary Secondary Modern V Grammar Junior V Grammar Junior V Secondary Modern	Secondary — Grammar —	.01 N.S. .01 N.S.	Junior — Junior Junior	.01 N.S. .01 .01
Stem 14: <i>I like</i> <i>Composition</i> <i>but</i>	Junior V Secondary Secondary Modern V Secondary Grammar Junior V Secondary Grammar Junior V Secondary Modern	Secondary — Secondary Grammar Secondary Modern	.01 N.S. .01 .01	Junior — Junior Junior	.01 N.S. .01 .01
Stem 23: <i>I do not like</i> <i>Composition</i> <i>.</i>	Junior V Secondary Secondary Modern V Secondary Grammar Junior V Secondary Grammar Junior V Secondary Modern	Secondary — Secondary Grammar Secondary Modern	.01 N.S. .05 .01	Junior — Junior Junior	.01 N.S. .05 .01

linked this with the secondary teacher's decreased concern with motivation for writing, the teachers' completions while showing a strong tendency of this kind, produced no significant statistics.

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FURTHER STUDIES IN CONCEPT DEVELOPMENT

Reported by R. M. BEARD on behalf of the Research Group of the A.T.C.D.E. Mathematics Section

IN two previous studies of concepts among primary school children (1, 2) members of the A.T.C.D.E. Mathematics Section established that in concepts of number Piaget's findings were substantially correct for English children, but that in concepts of conservation of quantity experience played so large a part that the order of acquisition of concepts was considerably affected. Indeed, concepts of conservation of volume, which the Swiss children did not understand until about ten years, were understood by about one-third of our large sample at any age between five and ten years; this suggested that appropriate experiences were available at the earlier ages but that some children missed them. The lack of experience was confirmed by our finding that intelligent children were little, if any, more successful than the average and dull; they should have done better if they had information to reason from; and a sex difference in favour of boys was most simply accounted for by a difference in play interests between the sexes.

In two further studies some concepts of time and space were investigated. The concepts of time related to age, duration and order of events; those of space were concerned only with understanding of horizontal and vertical. We may consider any ordered sequence of events as referred to a single line of reference, whereas horizontal and vertical form a double frame of reference when represented diagrammatically, or three dimensional when a vertical axis is taken through a point of origin with the horizontal plane through that point. But in representing order in time the linear frame of reference is usually combined with an ordered sequence of numbers, so that in this case number concepts must be mastered before such concepts of time are understood. Spatial concepts do not depend on a prior understanding of symbols and are readily accessible through experiences in everyday life. But we shall see that, as with concepts of quantity, the possibility of observing relationships is not sufficient

unless there are factors operating in the environment which draw attention to them.

PART I

CONCEPTIONS OF TIME AMONG INFANTS

I. INTRODUCTION

The main source of information concerning children's understanding of time is Piaget's *Le développement de la notion de temps chez l'enfant* (6). But as it is not yet translated the wide variety of interesting experiments and inquiries which he made with Swiss children are not generally known. It is true that Lovell (5) describes experiments concerned with simultaneity of events and duration of intervals, but he does not report investigations into children's conceptions of age. Accurate measurement of age depends among other things on capacity to reconcile an increasing set of family ages with a decreasing set of dates of birth. Similarly, matching simultaneous events may involve observing that as one quantity increases another decreases e.g. in transferring liquid from one vessel to another. Neither concept would be expected to develop before a child was capable of making a single series. But concepts of age, particularly, may well be approached through perception of attributes of different age groups: heights, clothing, bodily proportions, appearance of the skin, posture, profusion of hair, etc.; so that, where date of birth is not known it may yet be possible to assess ages with tolerable accuracy.

Piaget found that in young children time was not regarded as changing and essentially continuous but as a change tending towards certain status so that it ceased to flow when that was attained. In a first stage, ages were believed to be independent of order of birth and differences in age were thought to be modified by the passage of time; all adults were described as "old" because they had ceased to grow. These children supposed that all younger children were the same age. During a second stage it was usually realised that ages were dependent on order of birth but it was still thought that differences in age could be modified with time. At a more advanced level of this stage (7-8 years) a child might be able to say who was older but could not deduce who was born first. In a third stage age and date of birth were immediately related. It was in this stage that children first realised that they could not compare the ages of two trees without knowing when they were planted; whereas children in

In observation of series of events Piaget found that children could describe what happened—that the liquid fell in a spherical glass vessel as it was transferred to a cylindrical one beneath it—and that all except the youngest could record this accurately in blanks provided. But if these outlines were shuffled children at stage I (about 5 years) could not put them in order of occurrence. Piaget concluded that these children were not yet able to think of time as a linear sequence or to represent events by a succession of distinct images. At a more advanced development of this stage children could follow the sequence of events from marks on the glass but were not yet capable of doing so in diagrams. Piaget argued that these children could not yet substitute a sequence in thought for a practical one.

Three stages were identified also in development of understanding of duration. In the first stage, up to about six, children judged duration of a journey by its length or by effort expended instead of by times at which it began and ended. In a second stage, roughly between six and seven, children might admit that two journeys began and ended simultaneously but still said that the longer journey took more time. In the third stage the relation between speed, distance and time was understood and durations of journeys were judged correctly.

From his experiments and investigations Piaget concluded that the idea of time was not inborn but was constructed by constant reference to objects themselves, developing in relations between the subject and objects on which he acted.

2. THE INVESTIGATION

The A.T.C.D.E. mathematics research group undertook an investigation with infants in two areas in London (Miss K. Ironside and Miss S. Roberts) and in Bristol (Miss K. Sowden), to determine the extent to which Piaget's findings were confirmed and what evidence there was of parallel development in different kinds of concepts of time. Questions were prepared relating to concepts of age, duration and of simultaneity between sequences of events. The subjects tested were fifty infants between the ages of 5 years 4 months and 7 years 3 months; although a larger sample was to have been taken from several areas this proved impossible for various reasons. As usual pairs of students asked and recorded the questions and answers.

Among concepts of age the following results were obtained: in assigning ages to a family of six persons in a picture all but one child suggested ages in the right order for the three children; the parents and grandmother were given reasonable ages by 21 children, 4 gave a suitable age for the grandmother but impossibly young ones for the parents, 9 gave the grandmother a child's age but suggested suitable ages for the parents. The term "youngest" was understood by all but one child. The eldest was identified as the grandmother by 24 children, father by 17 children, mother by 2 children and the tallest child by 3 children. Only one child said that all the adults were "eldest". Thus in this item only one child may be in Piaget's first stage. Inconsistencies, characteristic of the second stage, were not infrequent; father was said to be 23 and "eldest" though grandmother was said to be 100, or father was 31 but the eldest was the tallest child who was thought to be 7 years, and so on. Most inconsistencies were due to calling the father the eldest, probably owing to his height, and ignoring the ages assigned.

When shown a picture of three children playing on the floor (to avoid showing their heights), and told their ages, thirty-eight children could say in what order they were born. Of the remainder, five placed the youngest second, possibly because she was shown standing and therefore appeared taller, six reversed the times of birth entirely, and one said that he did not know. Since all but one

associated age and date of birth to some extent there is at most one child in stage I.

Comparison of ages, given dates of birth, proved far more difficult. Only two children could say correctly which child was older by two years; ten others reversed the order giving reasons similar to those quoted from Beard's study of six and seven year olds in London; only one failed to decide between the two criteria. In this item, therefore, two children have reached stage III and eleven are in stage II.

Assigning ages to trees is a less familiar activity among children so we should expect them to do less well in items where this is required. We have already seen that other concepts were achieved later with unfamiliar materials than with familiar ones (1 & 2). When given pictures of an apple tree in six successive years and a pear tree, said to be planted a year later, in five successive years, only fifteen children could make the series and show how they corresponded. Of these, only thirteen decided which tree was older in any given year by the time at which they were planted; the rest made their decisions for such reasons as "the pear tree is taller", or "the apple tree has a round shape"; eleven failed to give reasons. Some confusion was reported from one area because the first picture of the apple tree was a small stem without leaves. Some children thought that this was "dead" and therefore "old".

Comparison of the ages of an oak and a lime tree shown in pictures was undertaken by all the children without inquiry as to the time of planting. Reasons given for their decisions included references to heights in 29 cases and other aspects of appearance in 8 cases; no reason was given by 9 children. Three supposed that all oaks were old and one chose the tree he liked.

A substantial number of this sample had reached the third stage in concepts of duration. Only three children of the 45 questioned supposed that it took longer to run the distance across the playground than to walk it; but two others in stating times taken gave longer ones for running than for walking. Thus possibly five children were in stage I for this item. In Piaget's sample this kind of misconception was common among six and seven year olds.

Comparison of times taken by the two students to walk unequal distances, beginning and ending simultaneously proved harder. Twenty-two children realised that the time taken was the same for both giving such reasons as "The same time, but bigger steps", or "Started and arrived at the same time". Eight decided, like some of Piaget's sample in stage II, that the one who ended behind took

longer; presumably their criterion was speed not length of journey. Nine agreed with the rest of his sample in stage II in saying that the one who ended in front took longer, evidently judging by distance travelled. The remaining children did not give a decision.

In the similar item in which two trains were shown travelling on straight and curved routes with their termini at equal distances apart, 33 children believed that the trains took the same time; but of these only 17 could support their belief with a good reason such as "they started and finished together but one went faster". Others asserted "Because they do" (age 7.11), "I guessed" (6.10), and similar replies, while 8 gave no reason. Of those who thought the times unequal the majority did not give reasons. When asked which train travelled faster 17 children explained that the one on the curved line must do so. 9 said it was faster to travel on a straight route, while 17 decided that their speeds were equal because of their simultaneous arrivals and departures. The rest did not know or gave irrelevant replies. Taking these two questions together, we find that 17 children have reached stage III, but up to 6 are still in stage I.

A somewhat surprising feature in all the items described so far is that older children appear no more successful than younger ones, nor are there noticeable differences due to intelligence (as rated in one area only) or between the sexes.

To test further ability in matching sequences of events Piaget's experiment with glass containers was modified, possibly making it somewhat easier. A bottle of orangeade was poured into five glasses, recordings being made in blanks provided initially and as each glass was filled. Each blank showed the bottle in the upper half and the glasses below; the children filled in with a crayon the amount of liquid left in the bottle and the liquid in glasses. Only the 26 children tested in London completed this experiment. Subsequently the blanks were shuffled and the children were required to remake the series; 16 children succeeded, two succeeding who had failed with the sequences of trees and one failing who had succeeded with the trees. 4 children wished to put the first picture at the end though the rest of the pictures were correctly arranged; a fifth child rejected the first picture. Thus only five children made more than one error in the series. When the blanks were cut, so separating the bottles from the glasses, only eight children made and matched the series correctly; two others nearly succeeded but put the first picture last in both series. For the whole item, therefore, there were 8 children in stage III, but five certainly, and possibly ten were still in stage I.

3. CONCLUSIONS

TABLE I

SUMMARY OF RESULTS

Item	Number of children in stage			N	Comments
	I	II	III		
Order of children's ages	1	49	50	50	No apparent relation between stage with age, intelligence rating or sex
Order of adults' ages					
Order of birth of three children					
Differences in ages given dates of birth	1	11	38		
Ages of 2 trees	37	11	2		
Ages of trees from pictures in successive years	50		0		
	37		13		
Times to cross playground	5	40		45	
Two people walking unequal distances	6	17	22		ditto
Trains, times and speeds	6	22	17		
Sequence of bottles with glasses	10(5)	16(21)		26	The older year twice as successful as the younger year
Separate series of bottles and glasses	18	8			

From the table it is easier to distinguish items in which many children reached stage III from those in which few or none reached this stage. The former items are concerned with ages of persons very similar to the child and his own family; he may know the ages of children like these and of some adults such as these even though he has no clear idea of a sequence of ages. The latter items require understanding of such a sequence and its relationship which grows differently or decreases. Capacity to give a verbal account of the relationship does not suffice to show full understanding: a child may say "The orange goes down in the bottle as the glasses are filled", but the series he makes, or the way in which two series are related, appears fairly haphazard. Piaget suggested that children before stage III did not judge simultaneity by order in sequence of events; we found some children who did not complete either of the separated sequences correctly although they had remade the sequence before the cards were divided. This suggests that the idea of a sequence itself is still uncertain and that Piaget's comment on the failure of

children in the second stage to make a series at all still applies here, i.e. that the children cannot yet substitute a sequence in thought for a practical one.

To a lesser extent similar difficulties are found in judging durations; the relationships between speed, distance, and time are also fairly difficult to establish, but the situations are ones familiar in play and in everyday life.

Inspection of the answers of individuals shows that the order of difficulty is not invariable. For example, Paul (7.0) reversed orders of ages even in easier items, but reached stage III in every other item; Helen (6.6) understood durations well but could not deal successfully with order of ages or with series; Martin (5.7) could match the series of bottles and glasses but was unable to deal with the ages of trees and did not understand the easiest problem about durations. It seems reasonable to conclude that different items are familiar, or interesting, to different children and that success with the different kinds of concepts is more influenced by familiarity of the item than by apparent difficulty of the concept. It seems also that there is no inevitable transfer of understanding in one situation to similar ones, even though they may appear easier to most children. This reinforces what most teachers recognise: that it is not sufficient to present a single example of a relationship expecting it to be understood in other contexts also. Possibly, we may infer that it is not sufficient to show mathematical relationships with one kind of apparatus only and to assume transfer to other apparatus or to situations of daily life. The situations in which knowledge will be used must be met, and our teaching should apply to these. If we hope for transfer we must draw attention to similarities in different situations.

In the case of time concepts there is some overlap with certain spatial relations. Time is frequently represented by an ordered sequence of points on a line. A child who can already make an ordered sequence of objects should have an advantage in ordering ages, or other temporal sequences, if the connexion is drawn to his attention. Further, the capacity to imagine ordered sequences may apply in either context, so that practical activities involving either kind should contribute to such ability.

PART II

CONCEPTIONS OF "HORIZONTAL" AND "VERTICAL"
AMONG PRIMARY SCHOOL CHILDREN

I. INTRODUCTION

In this study Mrs G. Moss (Eastbourne) and Miss H. Shuard (Cambridge) sent students into a number of primary schools to repeat one group of Piaget's investigations into children's spatial concepts; the limited field selected was that of understanding of horizontal and vertical. This appeared an interesting field as children have many opportunities to observe horizontal surfaces of liquids and the importance of horizontal and vertical in building, but no activities are provided in schools with a view to developing these concepts.

In *The Child's Conception of Space* (7) chapter 13, Piaget outlines the development of these concepts in a group of Swiss children. He obtained stages of development from studying their drawings of buildings and posts on a hill-side, the surface of liquid in a tilted bottle, a plumb line hanging from a tilted support and the mast of a "boat" floating on the liquid in the bottle. Three stages were identified. During stage I children (roughly up to 4 or 5 years) failed to conceive of a plane surface; liquid in a bottle appeared as an unsupported blob while trees and houses were drawn lying flat within the outline of a hill-side, none being allowed to stand in a vertical plane on the edge. At the beginning of a second stage (IIA) the orientation of objects was determined by the position of the supporting surface and not by an external system of reference; for example, liquid remained parallel with the base of a bottle whatever its position. In the latter part of the stage (IIB) children began to draw the vertical correctly in some contexts; poles might be drawn vertical near the base of a hill, and liquid which was drawn parallel with the base of a bottle in all other positions became horizontal if the bottle was placed completely on its side. The third stage began at about seven years with a gradual change; at first surfaces of liquids and poles on a hill were drawn obliquely, compromising between the two systems of reference, but in stage IIIB, attained at about nine years, there was immediate prediction of horizontal and vertical as part of an overall frame of reference. Of particular interest was an experiment with some children who were shown a bottle gradually tilted and were

asked to draw the liquid it contained in successive positions. Prior to stage IIIA observation made no difference to the children's drawing but at stage IIIA they proceeded by trial and error, expecting the liquid to tilt with the bottle but correcting back to the horizontal after each observation. Only at stage IIIB was the concept of horizontal achieved immediately in all situations.

2. THE TESTS AND THE CHILDREN

The students from Eastbourne and Cambridge repeated three experiments similar to Piaget's. These were

1. A bottle was shown standing upright half full of orangeade. A similar empty bottle was shown tipped in two positions—near vertical and near horizontal. Children were asked to draw, in blanks which were provided, the position of the liquid in the half full bottle if it was tilted in each of these positions.
2. A short plumb line was shown hanging from the centre of the lid of a jar. The children were asked to draw how it would hang if the bottle was tilted to a position shown with an empty jar (about 30 degrees with the vertical)
3. An outline of a steep hill was provided and the children were asked to draw two houses and two telegraph poles on it.

In addition, to find out whether children understood the importance of vertical in their own experience the students showed a picture of a boy, said to be watching a football match, who leaned forward without bending at about 30 degrees with the vertical. As his centre of gravity was not supported he should have fallen, but there was no indication that he might fall. It seemed reasonable to suppose that children who did not appreciate the importance of vertical in standing would not be able to cope with the more complex situations in items 2 and 3.

Children were selected at random from each age group in nine primary schools, including infants where possible. When making the selection sex was not taken into account by all the students, with the result that in the total sample of nearly two hundred children boys predominated, particularly in the youngest groups. The procedure in testing was similar to that in previous investigations: students worked in pairs, one asking questions and the other recording answers, and any additional questions and answers were recorded in detail.

3. STANDARDS OF SCORING

In addition to looking for Piaget's stages scores were assigned to answers to allow comparison between age groups, the sexes and levels of intelligence. Standards of scoring were as follows:

I. *The picture of the leaning boy*

Score

- 0—positive that there was nothing wrong with the way he stood
- 1—disapproved of his posture merely; said "I would stand straight."
- 2—remarked that he was leaning but believed he would not fall
- 3—observed that he might possibly fall
- 4—certain that he would fall
- 5—explained that his weight was unsupported so that he must fall.

II. *Drawings of fluid in tilted bottles*

- 0—fluid drawn as a confused mass (stage I) or parallel with the base of the bottle (stage IIA)
- 1—fluid drawn parallel with the side of the bottle, pouring out of the bottle, or as a sloping line from a corner to the neck (all stage IIB). Also fluid drawn vertical i.e. away from the horizontal, or parallel with the base but with a trickle of liquid up one side, or curved upwards (these responses were not found by Piaget)
- 2—compromise between parallel with the base and horizontal, in both drawings (stage IIIA)
- 3—within 5 degrees of the horizontal in one drawing but less good in the other (stage IIIA)
- 4—one exactly horizontal, the other near horizontal (stage IIIA)
- 5—both horizontal (stage IIIB).

III. *Drawings of houses and poles on a steep hill-side*

- 0—houses and poles perpendicular to the hill-side (stage IIA)
- 1—some very slight tendency towards the vertical (stage IIB)
- 2—either poles, or some main features of the houses vertical; other features, or poles, perpendicular to the hill (IIIA)
- 3—poles vertical, in general; house walls vertical but features sloping (IIIA)
- 4—almost all verticals correct; roofs, bases of windows and doors sloping (IIIA)
- 5—verticals correct; horizontals correct except for one feature—usually the base of the door. In some cases insistence that the front of the house should show but that horizontals should be correct results in drawing the house standing in space, or one vertical is short or curved and the features crowded. (IIIB)

- 6—correct. House in space, but supported; on a cutting in the side of the hill; house drawn in front of the hill, or only the side of the house shown. (IIIB)

IV. *Plumb line in jar*

- 0—line parallel with side of jar (stage IIA)
 1—a very slight inclination towards the vertical (IIB)
 2—beginning parallel with the side but bending to the vertical (?)
 3—a compromise between parallel with the side and vertical (IIIA)
 4—very near vertical (1-10 degrees), including some cases in which the bob appears outside the jar (IIIA)
 5—vertical (IIIB)

Since many children were in Piaget's stage IIIA, in which they made compromises between a frame of reference related to the tilted object and the frame of reference of vertical and horizontal, a number of scores were required to differentiate levels of understanding within this stage.

4. RESULTS

I. *The picture of the leaning boy*

Mean scores, and numbers of children in each age group (shown in brackets) were as follows. The children were rated as "dull", "average", and "bright".

Age	6.5—7.4			7.5—8.4			8.5—9.4			9.5—10.4			10.5—11.4		
Intelligence	D	A	B	D	A	B	D	A	B	D	A	B	D	A	B
Boys	2.7 (3)	2.5 (8)	2.7 (3)	3.7 (6)	2.0 (5)	3.3 (4)	3.2 (6)	3.5 (10)	3.9 (9)	3.0 (6)	3.2 (9)	3.3 (9)	3.8 (8)	3.4 (12)	3.0 (10)
Girls	—	3.3 (3)	2.0 (2)	4 (1)	2.8 (1)	2.8 (4)	2+ (7)	2.0 (5)	3.1 (7)	2.1 (8)	2.6 (8)	3.3 (10)	4 (1)	3.3 (6)	3.0 (12)

No considerable differences were found between age groups, levels of intelligence or between the sexes. However, in view of subsequent results it may be significant that seven of eight zero scores were obtained by girls. Although the more intelligent girls appreciated the importance of standing vertical the mean score for "dull" girls was 2.53 as compared with 3.21 for "dull" boys; this just fails to reach statistical significance at the .05 level. In general, it seems that children were well aware that they could not lean much from the vertical when standing, but few had discovered the extent to which it was possible without inevitably falling, and only three boys mentioned the role of weight.

II. *Drawings of fluid in tilted bottles*

It was expected that as children handle milk in bottles almost every day this would prove a fairly easy item. In fact, it proved the most difficult, especially to the girls. Mean scores are given below; in this case the two youngest groups are taken together.

Age Intelligence	6.5-8.4			8.5-9.4			9.5-10.4			10.5-11.4		
	D	A	B	D	A	B	D	A	B	D	A	B
Boys	0.7	1.7	2.5	1.4	1.6	2.5	2.7	1.6	3.0	2.5	3.0	2.0
Girls	0.0	1.1	1.5	1.9	2.9	0.7	1.0	1.5	2.5	1.0	2.0	2.7

Analysis of individual scores shows that 28 children scored 0. Of these nine appeared to be at Piaget's stage I. Their drawings show liquid suspended in space, expanded to fill the bottle, much expanded and with a curved surface, or expanded but showing what may be an air bubble.



The remaining children drew the liquid always parallel with the base of the bottle. A further 64 children scored 1. Of these 28 can be assigned to Piaget's stage IIB; they drew liquid sloping from the neck of the bottle to the upper end of the base. However, 18 children drew the liquid standing vertical, or nearly so, and this is a response not reported by Piaget. The remaining 18 showed the liquid parallel with the base but bulging in the middle, parallel with the base except for a trickle up the side, or just not parallel with the base so that it could be an error in drawing. The last of these groups may be assigned to Piaget's stage IIIA. Only nine children drew the liquid horizontal in both cases, thus reaching stage IIIB; of these seven were boys, and all were "bright" children. The age of the youngest boy in this stage was seven years.

An analysis of variance using the mean scores shows that the most significant difference is that between the sexes; in addition the youngest group is significantly less successful than the three older groups and the "dull" significantly less successful than the abler children.

III. *Drawing of houses and poles on a steep hill*

In this item mean scores were as follows:

Age Intelligence	6.5—7.4			7.5—8.4			8.5—9.4			9.5—10.4			10.5—11.4		
	D	A	B	D	A	B	D	A	B	D	A	B	D	A	B
Boys	1.5	2.0	1.7	1.2	2.4	5.0	2.4	3.5	4.0	3.7	4.4	4.4	4.1	4.2	5.2
Girls	—	1.7	2.5	1.0	1.8	3.0	1.3	3.4	2.7	1.8	2.7	4.5	2.0	3.1	4.2

Analysis of individual scores shows that 25 children used the hill alone as a frame of reference, thus scoring 0 which is Piaget's stage IIA; no boy older than 9 years scored zero but five girls did. Twenty-seven children scored 1 for making some slight compromise towards the vertical; this is Piaget's stage IIB. Stage IIIA is represented by various more substantial degrees of compromise between relating slopes of walls and roofs etc. to that of the hill and to the true vertical and horizontal. It will be seen that our scoring allows for drawing of verticals to be correct before that of horizontals. It appears that our samples of children did not use these directions as a united frame of reference but learned to draw verticals correctly first and only later realised the importance of the horizontal. However, 45 boys and 21 girls scored 5 or 6 which appear to correspond with Piaget's stage IIIB. Thus correct use of the horizontal is achieved earlier in this item than in item II.

An analysis of variance of the mean scores shows that age differences, differences in intelligence, and sex differences are all significant.

IV. *The plumb line*

In the table of mean scores for this item the two youngest groups have again been combined owing to the absences of several of the girls who were already a very small group.

Age Intelligence	6.5—8.4			8.5—9.4			9.5—10.4			10.5—11.4		
	D	A	B	D	A	B	D	A	B	D	A	B
Boys	1.8	3.0	3.0	2.4	3.2	3.7	4.3	2.5	4.2	2.6	4.7	4.1
Girls	—	1.3	2.0	2.0	3.3	3.3	2.1	3.6	3.1	3.0	3.2	3.2

Inspection of individual scores shows that 26 children drew the plumb line parallel with the side of the tilted jar. This scores 0 and is Piaget's stage IIA. A score of 0 was not uncommon even among older and brighter children. At the other extreme 33 boys and 16 girls immediately drew the plumb line vertical; of these seven were rated dull and the two youngest were just over seven years old. Of the compromises between these solutions that of drawing a curved or bent line was the most curious; the line began parallel with the

side of the jar and ended vertical. But in eleven cases the line curved horizontally into space apparently emerging through the jar; this solution was not provided by the Swiss children and cannot be described as a compromise between the systems of reference related to the jar and to the vertical. Possibly it results from observing swinging ropes of crane cables.

An analysis of variance of mean scores shows that age, intelligence and sex differences are all significant, in that order of importance. From the table of mean scores it can be seen that the sex difference does not become noticeable until after nine years when boys improve considerably but girls do not.

5. CONCLUSIONS

Comparison of the three items based on Piaget's experiments shows the following distribution of stages:

	Stage I	IIA	IIB	IIIA	IIIB	
Item II	9	19	28	107	9	(18 not classified)
III	—	25	27	75	66	
IV	—	26	26	76	51	(11 not classified)

It is evident first of all that the children do not succeed equally well in all items. They are less successful when the horizontal is required than when the vertical must be noticed and represented in drawing. They do not use these dimensions as a combined frame of reference but separately; where they eventually represent both dimensions correctly in the drawing of houses on a hill this appears to result more from the correct understanding of vertical and the need for right angles in the outlines of the buildings, and their features, than for any true appreciation of the importance of the horizontal.

That the children's learning is piecemeal with little evidence of generalisation of a concept from one situation to another, is easily demonstrated from the stages reached in different items by the same child. Russell, who is an average boy of 8 years 10 months, is one of the nine children who shows the horizontal liquid correctly in item II but is at stage IIA in his drawings of a hill. Gary, who is also average and is four months older, draws perfect houses and poles on the hillside but is at stage I in his drawing of fluid in a tilted bottle.

These are extreme instances, but examples of uneven development are easily found, whereas it is difficult to find a child who has reached the same stage in each item. Among the children who failed to realise that the boy in the picture was standing in an unusual

position a similar diversity occurs in their other answers: Elizabeth, age 9·1, is at stage IIIA in all other items; Judith, a "bright" girl aged 8·9, is at stage IIA in her drawings of a plumb line and of the hill, but at stage IIB in her drawing of fluid in tilted bottles; and so on. In brief, it is not possible to give overall stages for the children in our sample with respect to these concepts but only to outline stages for each item individually.

Our second point is that the older children in this sample have not reached the stage, described by Piaget of immediate prediction of horizontal and vertical in a variety of situations. This stage Piaget found was achieved at about nine years by the Swiss children. Possibly this is due to the difference in experience of the two samples. It was reported of one group of children from the Eastbourne samples who lived in a hilly area where building was in progress, that they did noticeably better in item III. Unfortunately as our groups were not matched this did not permit a statistical comparison; but it is probable that observation of building in progress would draw attention to the need for horizontal sites and for the arrangement of the front of the house along a contour rather than along the line of greatest slope—as it is usually represented in the drawings of younger or less observant children. The importance of the concepts of horizontal and vertical are likely to be forced on the attention of Swiss children, far sooner, due to their mountainous environment.

This leads us to a third point. It is that opportunity for observation is not sufficient to ensure arrival at a concept. In the case of liquid in a tilted bottle children have countless opportunities to observe the horizontal surface of the liquid; but most of them observe instead some interesting feature—an air bubble, that the liquid can lie along one side of the bottle, or merely that its position can change—without investigating how the surface moves in relation to the bottle and its surroundings. If we wish them to do this we must provide games or experiments which require such observations. In the case of some boys and a few girls their play, or active observation has already resulted in achievement, or partial achievement, of concepts of vertical and horizontal. These concepts, like concepts of conservation of quantity (2), can be fairly readily understood through kinaesthetic and visual experiences; there is not the same need to accumulate an orderly sequence of concepts as in understanding of number concepts; consequently we may find concepts of space achieved in different orders by different children, or very early in children who have relevant experiences. If experience is not pro-

vided and critically examined, however, even older children may fail to achieve the concepts. In the case of spatial concepts this may well be a contributory cause to difficulties found in geometry and trigonometry at the secondary school.

The sex difference in concepts of space, as of quantity, is undoubtedly due in part to differences in play interests. But it is still an open question whether some fundamental differences in personality or aptitude also operate. In the case of the concept of vertical an interesting comparison can be drawn with the investigation of Witkin (9). He asked adult subjects to adjust a movable rod to the vertical while they sat in tilted positions or were experiencing the effect of centrifugal force in a rotating chair. He found that some subjects, the majority women, were "field dependent", that is to say they could not abstract the true vertical but judged it from the positions of their own bodies or line of sight. Such subjects behaved in a similar way in other tests involving space orientation. These subjects were found to be dependent in personality, tended to be passive, readily submitted to authority and had little self confidence. In contrast "field independent" subjects were more successful in judging the vertical despite their unusual position and were subjects who showed initiative and organising ability, were active, confident and could accept themselves better.

It is possible that our results may also reflect differences between the sexes in personality. Girls and women are not expected to show as much initiative, and are more often allowed to be dependent, than boys and men; and greater activity appears to be innate in boys. From infancy, on the average, males have greater muscular strength and tendency towards restlessness and vigorous action than do females. Although there is considerable overlap between the sexes the average difference increases throughout childhood and adolescence; this may well facilitate the acquisition of mechanical skills and appreciation of spatial relationships among boys and men.

That the difference between the sexes in the acquisition of mathematical concepts in the primary school can be at least partly overcome is suggested by a subsidiary investigation of Biggs (4). He has compared the performance of girls from schools where mathematics is taught through practical work and experiments with others, from similar schools, which maintain traditional methods of mathematics teaching, which emphasise learning by rote. The comparison showed that where girls had been taught by practical methods for more than one year they began to catch up with boys in mathematical tests re-

quiring appreciation of structure. However, the sample was small and the results are by no means conclusive. He suggests that the concept of a "feminine role" as un-scientific and non-mathematical may invalidate attempts to induce mathematical concepts especially in older girls.

6. SUMMARY OF RESULTS

1. Acquisition of concepts of horizontal and vertical occurred later in our sample of English children than in the sample of Swiss children tested by Piaget. Among the English sample these concepts appeared to develop separately and in specific situations. Fewer than one in thirty of our sample used these concepts correctly in all four items.
2. In general, there was progress with age and more intelligent children achieved the concepts sooner. There were substantial differences between the sexes to the advantage of boys; the greatest difference occurred in an experiment with liquid as was found also in concepts of conservation of quantity.

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RICHARD DAWES AND THE TEACHING OF COMMON THINGS

by N. BALL

Senior Lecturer in Education, Crewe Training College

DURING the last decade, we have seen in the primary school a very striking development of work in the physical sciences—in many ways a new development, since until recently few teachers appreciated fully the educational possibilities of the primary schoolchild's natural interest in the physical world; indeed, in the first half of this century Susan Isaacs was almost alone in recognising its significance. To believers in educational progress it will, therefore, seem surprising that this principle was understood and applied by an early Victorian parson, Richard Dawes.

Dawes was a Yorkshireman, from Hawes, in Wensleydale, who went up to Trinity College, Cambridge, in 1813. He was fourth wrangler in 1817, became a Fellow of Downing College, and remained there as Bursar and Mathematical Tutor until 1836. His academic duties were not onerous, since the College, being almost unendowed, had no scholars and few of the fellow-commoners aspired to honours. His stewardship of the College finances was apparently highly successful and his "genial humour and exuberant spirits", the chronicler of Downing tells us, gave the Combination Room "a social and convivial celebrity second to that of no other College". Here, perhaps, he began to learn the value of experience rather than precept in education, since in later years he recalled an argument about sheep's teeth which ended in two of the Fellows walking out of Cambridge to catch a sheep and find the truth! (1).

Until he was 44 years old, Dawes's career was that of the normal don of the period. He differed from others only in his outspokenly liberal views, which led him to vote for the admission of dissenters to the university. This action changed the course of his life, since it led the "high-placed ecclesiastics" in whose gift was the Mastership of Downing to reject his candidature when the office fell vacant in 1836. Dawes's academic career was thereby ended. He married and took a small College living immediately and in the following year was

presented by a former pupil to the rectory of King's Somborne, where he found his life's work (2).

King's Somborne is a sizable village in the Test valley, surrounded by rolling chalk country. In 1837 it was not a very prosperous parish; indeed, it had earned some local notoriety from the size of its poor-rate. There were no resident gentry; the land was in the hands of five or six farmers, of whom Dawes said, "beyond the 'Muck Manual', in the way of book-learning, very few of them are inclined to go". Labourers earned from 6/- to 9/- a week and, until the enforcement of the New Poor Law, had depended on the poor rates to avoid starvation, a state of affairs which, said Dawes, "had almost destroyed the whole social system to which they belong, and may do so again if not guarded against" (3).

He came, then, to a parish in which the farmers were ignorant and the labourers pauperised. As he saw it, the situation perpetuated itself through the education available to both groups. Farmers' children attended inferior private schools, where they learnt less than children in National schools, while the Voluntary system, providing free education for the labouring poor as an act of charity—"a sort of patting-the-children-on-the-head system"—"assumed as a principle that the whole of the labouring classes are paupers" (4). Here was the problem; to Dawes's logical mind the solution was plain—one school, to bring together both classes; to educate the farmer and to rehabilitate the working man. It must provide an education appropriate for both, and better than that which farmers could otherwise obtain. It must be self-supporting, in order to avoid the stigma of charity; but the fees must not be such as would exclude the labourer's child.

Most contemporaries would have said that these aims were hopelessly conflicting; not so Dawes. He recognised that the villagers could not provide the schoolhouse and, indeed, was careful to point out that his self-supporting principle applied only to maintenance, not capital expenditure (5). The building was financed, partly by government grant, partly by a contribution of £500 from Dawes. But, once established, the school stood on its own feet, by means of fees graduated according to the parent's class—the principle, said Dawes, of taxation and of railway travel. Labourers paid 2d. a week for the first child and 1d. for each subsequent child; everyone else paid 6/- a quarter if they lived in the parish, 10/- if they lived outside it. Dawes himself decided the appropriate rate of payment and also expected parents to buy books for their children's use (6).

The school opened in October 1842 with 38 children. Two years later there were 110 pupils and a classroom was added. By 1846 there were 158 children in attendance, in addition to those at the local dame school, which was used as a sort of preparatory department. Of these 158 children, 22 were the children of local farmers and 14, whose parents, in addition to fees of 10/- a quarter, paid for their board in the village, were from other parishes. The master and mistress (man and wife) were paid £70 with a free house and garden. There was an assistant teacher and also four paid monitors. By 1850, when Dawes left King's Somborne, there were 219 children in the school and its income from fees and payments for books was £174 4s. 9d. Five years later its prestige was still sufficiently high for the parishioners to agree to a 6d. rate to pay for extensions (7).

Here was proof of success, accompanied, as it was, by Dawes's rigid control of rules and conditions of admission. It was achieved by unremitting hard work and experiment on his part:

The task I set myself was (he wrote), to make the schools so good, that the parents might see that there was no question about the fact that their children were the better for attending them, and that the knowledge they were acquiring was in their [the parents'] estimation interesting and valuable (8).

The social standards of the school were those of the middle class. Stress was laid on cleanliness; combs and toothbrushes were provided for daily use; and visitors repeatedly remarked that the pupils did not look like labourers' children, noting especially the smooth and shining hair of the girls:

... these children ... are beginning to feel that cleanliness and well-mended clothes are necessary to their comfort; their parents find it attended with no greater expense than rags and dirt, only requiring more regular habits. Habits of this kind in the girls ... will have the greatest influence on the next generation (9).

Discipline was based upon trust:

I have always instructed the teachers to be extremely careful never to frighten and ferret a child into a lie; and have strictly enjoined them, always, and at once, with great and small, to believe them, unless they have strong reasons for the contrary. . . .

Homework was encouraged (this was the chief reason for the insistence that books should be bought) not simply for the good of the children, but to bring the influence of the school into the home;

and the subjects given were designed to involve the whole family in discussion (10).

Discussion and experiment; these are key-words in modern theories of primary education. Dawes held the same view a hundred and twenty years ago. The dialogues in his children's reader show the children arguing about such diverse subjects as the differences between animals and men and the right way to handle a villainous father.

I have often found it a very useful lesson, on asking so simple a thing as the ages of the children in a class, when several happened to be the same . . . setting them to reason it out among themselves which is oldest, watching the questions they ask each other; it is astonishing how they flounder, and what a difficult problem it is. But simple things of this kind may be made most instructive lessons, by showing them how one question suggests another, and making them proceed, step by step, in a logical manner, until they arrive at an exact answer (11).

The purpose of education, he believed, was "to make the children observant and reflective; to make them think and reason about the objects around them", to develop, in fact, instead of to stifle with uncomprehended facts, a normal human characteristic:

We see a child as soon as it can use its hands, trying to move, or to lift anything which it can, placing it first in one position, then in another, and trying it in all the various ways which its senses admit of—in fact, making a variety of experiments with it . . . (12).

From the beginning Dawes spent an hour or more a day in his school, working with the children, "and this experience taught me both what it was most necessary to teach, and also the amount of good to be effected through the school" (13). Within a year, tentatively at first, he adopted, fifty years before Dewey, the principle that the child is best educated through problems which are relevant to his experience. He introduced the *Teaching of Common Things*—"the principles of the tools they use, and science as seen in their experience". The children of King's Somborne were encouraged to look and to think. They watched the animals in the fields and collected statistics as to how they moved. They followed the progress of the seasons by observing the sun. They kept a record of:

facts connected with natural history; such as the date of the first appearance of the swallow, and by whom seen—the first time the cuckoo had been heard, or the song of any particular bird—the blossoming of different fruit-trees, or trees in the hedgerows—the first ear of wheat or of barley, etc., brought to the school, but growing in the open field, and where growing, so as to be

able to point out if there were any particular reason as to aspect, etc., why that particular field was forwarder than others. . . .

Other matters of common observation provided an introduction to physics. As Dawes remarked, "... how delighted children are to have the philosophy of such things as flies walking on water, or needles floating on it, explained to them."

Questions about condensation on the schoolroom window led to a study of the properties of air and water; and the youth of King's Somborne investigated drinking through straws; popguns; bellows; their mothers' use of a cup to stop juice running from pies; pumps; and the way in which the sound of the Portsmouth guns travelled through Hampshire to their ears (14).

This observant, inquiring approach was equally useful in mathematics, in which constant reference was made to practical experience:

Tell a boy to measure the width of the door and its height; now what length of string will it take to reach between opposite corners? work it out: then to take a piece of string and measure,—they correspond.

Dawes welcomed the invasion of his garden one evening by a group of boys who, studying the properties of the cylinder, had been struck by the possibilities of his garden roller; and he recorded their delight on another occasion when he took them out to see a brick-layer who, unwittingly (for he had no idea why he made a triangle of six, eight and ten foot rods) was using the theorem of Pythagoras to square off his walls (15).

Geography was taught in relation to the locality and to the observations of the sky and the weather made by the children in their scientific work, and even history, normally presented as a mere exercise of memory, was made an instrument of reasoning:

John of Gaunt used to live where this school stands. Do you think he had tea and coffee with sugar for breakfast? give your reasons for thinking he had or had not.

Dawes always reserved his highest commendation for the pupil who exercised his reason on a problem. In a dialogue in his *Lessons and Tales* the teacher praises a little girl with "Very well, Rachael, you have thought about this." He once asked some boys whether the same body would weigh more at the equator or at the pole:

I observed the eyes of one of them glistening with delight, thinking he had it, who answered, "At the pole, sir—at the pole"; twice repeated. "Why?"—"Because, sir, at the equator one sweats so much." Now this, although not exactly the answer I expected, was that of a reasoning mind. This boy

would not have sent a cargo of patent skates to Buenos Ayres, as . . . a Sheffield cutler did, in 1806 (16).

In spite of the apparent emphasis on science, observers agreed that literary standards at King's Somborne were high. The proportion of good readers, said H.M. Inspector, was 2 in 5 as compared with the national average of 1 in 6. The children wrote constantly about their own experience; grammar was taught "almost entirely through their reading lessons . . . Any attempt by giving them dry definitions . . . is almost sure to fail; for one which it interests, it will disgust ten, and therefore the thing ought not to be attempted in this way." Much poetry was read and learnt ("nothing", said Dawes, "has tended so much to humanise the children in this school") and, since Dawes and his teachers were not musical, a parishioner, who was, undertook the singing with much success; we still have the programme of a concert given by the school-children (17).

Well might Dawes say that in a school run on these lines:

the life of the schoolboy becomes a life of discovery and of pleasure . . . Each new idea, and each new piece of knowledge to which the idea leads, are to the schoolboy what the floating weeds and the discovered islands were to Columbus in his voyage of discovery, equally interesting and exciting to the schoolboy in his little world.

The people of King's Somborne felt this was an education worth paying for. Dawes often pointed out that farmers' children in practice received a better education than those of labourers since they were able to stay at school longer; but the most striking fact was the willingness of the poor to make great sacrifices to keep their children at a school in which they believed. "Sir," said one of them, "it gives me such pleasure to see what my boy is doing, that I would even live on bread and water to send him longer to school" (18).

The first of H.M. Inspectors to visit the school, John Allen, was much impressed and urged Dawes to publish an account of his work. His successor in the Southern District, Henry Moseley, gave a long description of King's Somborne in his Report for 1847, which was reprinted as a pamphlet, with the Committee of Council's blessing. Allen and Moseley praised both the work in the school and its success in bringing social classes together:

It is in this union, to which the interests of neither class appear to be sacrificed, but which identifies them, that consists its chief excellence.

In 1847 Dawes published two pamphlets, *Hints on an improved and self-paying system of education* and *Suggestive hints towards improved secular instruction*, in which he described his principles and

showed how they might be adapted for use in other environments. The second soon became a recognised educational text-book. The Committee of Council recommended its use as a manual for teachers and the Irish National Board presented a copy to all its students in training (19). As a result, Dawes and King's Somborne became well known. The decade following the Minutes of 1846 was a period of experiment in primary education and his principles were adopted in a number of schools (20). As a recognition of his services to education, Lord John Russell presented him to the Deanery of Hereford in 1850. There he remained until his death. He found abundant outlet for his energies. He was largely responsible for the restoration of the cathedral and worked for the improvement of living conditions among the poor of the area. He took an active interest in local schools, published pamphlets in support of the Committee of Council in the dispute over the Management Clauses, was a frequent speaker at educational functions and campaigned for the reform of educational charities and for the opening of the lower ranks of the Civil Service to elementary school-children, by competitive examination. He compiled a school-book and edited a series of lessons on political economy by William Ellis, the utilitarian. He died in 1867.

In the middle years of last century, Dawes was a recognised authority on elementary education; and it is impossible to read his works without feeling that here was a reformer of real originality, with an understanding of the place of the school in society and the processes of learning in children which in many ways anticipates the work of Dewey. Yet although his ideas met with some immediate success, it was short-lived and he is now almost completely forgotten.

The explanation lies partly in the fact that the standards he set were beyond the reach of most would-be imitators. Although Moseley said that "any earnest and enlightened men who followed in the same path would achieve the same results" (21), Dawes brought a trained scientific mind to his village school and with it the flexibility and breadth of knowledge which his *Teaching of Common Things* demanded. Such qualities are not over-plentiful in the schools to-day; a century ago few parsons and fewer schoolmasters possessed them. Most attempts to imitate King's Somborne were doomed from the start; and the Revised Code put an end to the few which survived into the 'sixties.

Furthermore, Dawes's views ran contrary to those of that powerful group amongst Anglicans which believed that the curriculum should be dominated by religious instruction. As might be expected,

Dawes combatted this vigorously, arguing that secular education was a good thing in itself, enabling children to form correct judgments; that "the more they have of secular knowledge . . . the better they will understand . . . those fundamental truths of Christianity . . ." and that in his experience it was the best educated children who were best able to adjust to their rank in adult society. He went further, claiming that no education could be truly religious which did not enable young people to face up to the conflict between the Bible and scientific evidence—"even the Dorsetshire labourer may stagger upon some of the Sauroid animals in the blue lias of his district, and see evidence that makes him doubt . . . What is the mischief which the political agitator can do, compared with what such agitation as this might result in!" (22). Arguments so advanced—this was written a decade before the publication of *The Origin of Species*—might well make a large section of the clergy regard Dawes's ideas with suspicion and dislike!

Dawes published his views in a number of pamphlets. Several of these are lengthy; the most important (*Suggestive hints towards improved secular instruction*), which was frequently reprinted, is in fact a text-book of educational method running to nearly 200 pages; but they are not easy reading. In his style he showed all the characteristics of the stock Yorkshireman—it was blunt, uncompromising, often gaining force from an unconventional simile, but quite without literary grace. The following commendation of the effect of H.M. Inspector's Reports is typical:

The public wanted a sort of lifting-up principle of the schoolmaster and of educational things, which they are now getting hold of—or rather, perhaps, the principle is getting hold of the public. This principle is now at the long end of the lever (it has long enough been at the short end), and will have less difficulty in raising the dead weight placed at the other (23).

In an age which set high value on elegance of style, such writing was not likely to live. Dawes was forgotten except by a few enlightened men like Thring (24) and, when the hold of the Revised Code slackened, progressive teachers were too imbued with the Froebelian *mystique* of nature study to look back to what had already been achieved in a wider field. Dawes once remarked, in discussing educational progress, that "The real difficulty of the question is not with the people, or the classes to be educated, but in getting it out of the hands of the talking men, and into those of the practical and working ones" (25). Dawes was one of the practical men. In speaking thus, he perhaps put his finger on the main reason for the ultimate neglect of his ideas.

NOTES

(authors' names or short titles given; see bibliography)

1. Henry, p. 5; Pettit Stevens, pp. 168-9; *Suggestive Hints*, p. 3.
2. Pettit Stevens, pp. 169-70; Henry, pp. 9-10.
3. Moseley, p. 5; *Hints*, p. 10; *Suggestive Hints*, p. 126.
4. *Hints*, pp. 4-7; *Observations*, p. 27.
5. *Schools and . . . Similar Institutions*, pp. 4-5.
6. Henry, p. 12; Moseley, p. 26; *Effective Primary Instruction*, p. 33; *Schools and . . . Similar Institutions*, pp. 3-5.
7. *Hints*, pp. 13-15; *Schools and . . . Similar Institutions*, pp. 6-8; *Effective Primary Instruction*, pp. 38-39.
8. Moseley, pp. 25-26; *Schools and . . . Similar Institutions*, p. 11.
9. Moseley, pp. 8-11; *Hints*, p. 35.
10. *Hints*, pp. 21, 36, 38; *Suggestive Hints*, pp. 25-27.
11. *Effective Primary Instruction*, pp. 11-12.
12. *ibid.* pp. 6-7; *Suggestive Hints*, p. 69.
13. *Effective Primary Instruction*, p. 8.
14. Moseley, p. 19; *Suggestive Hints*, pp. 3, 5, 8, 73-77; *Teaching of Common Things*, p. 22.
15. *Suggestive Hints*, p. 59; *Hints*, p. 22; *Teaching of Common Things*, p. 17.
16. *Suggestive Hints*, pp. 26-35, 39; *Lessons and Tales*, p. 16; *Hints*, p. 22.
17. Moseley, pp. 11-14, 48; *Suggestive Hints*, pp. 8, 19, 152.
18. *Effective Primary Instruction*, p. 7; *Suggestive Hints*, pp. 167-8; *Hints*, p. 28.
19. *Hints*, p. 1; Moseley, p. 6; Ball, *H.M. Inspectorate*, p. 147; end papers of *Observations*.
20. *Schools and . . . Similar institutions*, pp. 14-25.
21. Moseley, p. 24.
22. *Teaching of Common Things*, p. 36; *Suggestive Hints*, pp. 155-160; *Remarks occasioned*, pp. 32, 51-52.
23. *Observations*, pp. 10-11.
24. See Thring, *The Theory and Practice of Teaching* (Third edition), p. 98, for a quotation from Dawes.
25. *Hints*, p. 42.

WORKS BY DAWES

(all published by Groombridge, London)

- 1847 (1) *Hints on an improved and self-paying system of national education, suggested from the working of a village school in Hampshire.*
- (2) *Suggestive hints towards improved secular instruction, making it bear upon practical life* (4th edition used for article).
- 1849 *Observations on the working of the government scheme of education and on school inspection.*
- 1850 *Remarks occasioned by the present crusade against the educational plans of the Committee of Council on Education.*
- 1853 *Schools and other similar institutions, for the industrial classes. Remarks on the importance of giving them, as far as possible, a self-supporting character, and the means of doing so.*

- 1854 (1) *Teaching of Common Things.*
 (2) *Remarks on the reorganisation of the Civil Service and its bearing on educational progress.*
- 1856 (1) *Mechanics' Institutes and popular education.*
 (2) *The evils of indiscriminate charity and of a careless administration of funds left for charitable purposes; with remarks on the dwellings and social habits of the labouring classes.*
- 1857 *Effective primary instruction the only sure road to success in the reading room, library, and institutes for secondary instruction, with remarks on the importance of school teachers securing for themselves deferred annuities—on a half-time system of alternate days in the rural districts, etc.*

DAWES EDITED

- 1851 *Lessons and Tales; a reading book for the use of children, chiefly intended for the junior classes in elementary schools (Longman, Brown, Green & Longman).*
- 1854 *Lessons on the phenomena of industrial life, and the conditions of industrial success (Groombridge).*

AND WROTE THE PREFACE TO

- 1856 *Manual of educational requirements necessary for the Civil Service (Groombridge).*

WORKS ABOUT DAWES

- 1849 Moseley, Henry, *An Account of the King's Somborne school (Groombridge).*
- 1867 Henry, William Charles, *A biographical notice of the late Very Reverend Richard Dawes, Dean of Hereford (Clowes).*
- 1899 Pettit Stevens, H. W., *Downing College (Robinson).*

BOOK NOTICES

THE WORK OF E. PAUL TORRANCE OF MINNESOTA

E. P. TORRANCE, *Guiding Creative Talent* (N. Jersey: Prentice Hall, 1963);
Education and the Creative Potential (Minneapolis: University of
Minnesota Press, 1963).

IN 1950 Professor J. P. Guilford in his presidential address to the American Psychological Association stated that creativity was an area relatively unexplored by psychologists. This seminal paper led to many investigations in the 1950s, which were further stimulated by the Sputnik achievement of the Russians. Comparisons with Russian achievements led to an almost hysterical self-examination by the Americans of their own methods and effectiveness in education. Yet beyond the immediate reactions, some sober and important questions were being asked about American education, especially where the higher levels of talent were involved. Were the products of American schools, colleges and universities sufficiently inventive, original and creative in their thinking, or were there powerful forces at work in American society inhibiting these capacities among the talented? The drive for social conformity is very marked in American society and Pete Seager's satirical record about people living in little boxes who all come out just the same, is indicative of the unease many Americans feel about this situation.

Guilford himself, by his theoretical structure of the nature of abilities and his factorial analysis of the results of a wide range of existing tests, was led to devise tests specifically designed to identify abilities he described as creative. Working mostly with student populations, his findings provoked others to extend the area of creativity testing. Foremost among these were MacKinnon and Barron of Northern California, Calvin Taylor of Utah, Parnes of Buffalo, New York, and Paul Torrance in Minnesota. While the others have been concerned with specific areas of creativity research such as personality, scientific innovation and creative problem-solving, Torrance paid particular attention to the identification of creative thinking abilities in children. Beginning at first grade (six-year-olds) with non-verbal tasks, he produced a battery of tests to be scored on four main factors. These were fluency, flexibility, elaboration and originality in thinking. The tests have been used mainly with elementary school populations, with most ages in high schools and even extended to some adult groups. His major concern, however, has been with the early identification of creative thinking abilities in childhood, and as such his work is of

particular interest to educators. Although the work began particularly in the field of the talented, Torrance sees creative abilities on a continuum and not confined to those generally thought of as the gifted.

Torrance has been a teacher, a school principal and a school guidance counsellor, as well as an educational researcher. Before his present post as Director of the Bureau of Educational Research at the University of Minnesota, for some years he conducted a series of investigations for the United States forces on the characteristics of successful ace pilots. At this time he began to develop a concept of "risk-taking" and later related this to a concept of open personality and as a characteristic of highly creative persons. Translating it to the general field of learning and to the specific area of classroom teaching, Torrance applied such insights as this to the processes of thinking and the pressures which stimulate or inhibit the creative abilities evident in children.

The two books reviewed here overlap each other considerably, since most of the research material is dealt with at length in both volumes. Initially, *Guiding Creative Talent* is a systematic examination of the importance of creative thinking for society, a survey of previous research and a description of the Minnesota Tests of Creative Thinking. A useful appendix gives considerable detail of these tests and how they should be administered. The second part of the book proceeds to deal with the identification of creative personality, how creative thinking may be developed and maintained and what happens when creative abilities are inhibited. Finally, Torrance raises the questions of what educational goals we should set for highly creative talent and what kind of relationships teachers, administrators and counsellors should have with creative pupils. A wealth of research material illustrates and supports the discussion.

The reader must not be misled by the constant reference to research findings to assume that the conclusions Torrance arrives at are to be accepted as final. Torrance would be first to admit that he is putting forward tentative hypotheses based upon descriptive populations, and these hypotheses about creative abilities and education may be replaced by others in the light of further investigations. This caution is very necessary since the whole question of what characterises a creative act and what makes for creative personality and talent, is still very much an area of discussion among United States investigators. The work of Getzels and Jackson is indicative of the controversy, since many queried not only their experimental methods but also their too ready assumption to see a clear dichotomy between "intelligence" and "creativity". What is refreshing about *Guiding Creative Talent* is that here is a clear outline of the author's assumptions, experimental methods and design, and a discussion of his results which provide a most valuable foundation for any reader wishing to acquaint himself with this complex and controversial area.

Education and the Creative Potential is a less systematic and more provocative book. From the same data as in the previous book, the edu-

cational issues are presented in a series of papers, most of them written for specific audiences. The keynote of this volume may be read on the first page where Torrance states that "We educators must increasingly become prophets". Among the problems Torrance seeks to examine prophetically are "The Creative Potential of Children in the Space Age", "Giving Children a Chance to Learn and Think Creatively", and "Religious Education and Creative Thinking". This latter paper explores the tension between religion as a personal and creative search for truth and religion as an accepted and authoritative corpus of belief and fact. The second part of this book deals with exploratory studies. Sex roles are looked at to see how sex factors may affect creative development in certain fields. The role of manipulation in creative thinking is imaginatively and factually explored. The pressures working towards conformity and what Torrance calls "the fourth grade (nine to ten years) slump" is examined in terms of peer sanctions. A further stimulating essay is concerned with how we can evoke creative thinking in primary schools.

Educators who have long quoted Froebel and relied upon the philosophical utterances of the great educators to justify creative activity as an educational method, will find Torrance a friendly but demanding ally. It is important, however, to keep separate Torrance the educational prophet and Torrance the psychological researcher. We are challenged to investigate further with larger and more varied populations before we are content with his hypotheses, and to provide testing instruments of sufficient reliability and validity in order to do this. Since it is made abundantly plain by Torrance in these books, and elsewhere, that many of the pressures which appear to inhibit creative ability are the result of a specific culture pattern, we should not too readily accept findings based upon American child populations. Sustained research is needed in Britain to test out many of Torrance's methods and conclusions.

In *Guiding Creative Talent* Torrance defines creative thinking as the process of sensing gaps or disturbing, missing elements; forming ideas or hypotheses concerning them; testing these hypotheses, and communicating the results. By these criteria Paul Torrance is himself a creative thinker of a high order and has produced in these two books material which will be productive of much creative thinking and research in education.

RONALD GOLDMAN

NEW HELPS FOR HISTORY TEACHERS

W. H. BURSTON, *The Principles of History Teaching* (Methuen, 10s. 6d.).

"Jackdaw" Folders (Jonathan Cape, 9s. 6d.).

It is excellent for history teachers that a book should be published which selects ideas on the philosophy of history, subjects them to a certain amount of predigestion, and relates them to the problem of history

teaching in schools. The establishment of some relationship between the philosophic theories of history and the practices of the school classroom is necessary for both practical and intellectual reasons. History is losing its importance in school curriculums because few history teachers know exactly why they are teaching their subject, whereas their rivals the geographers have explained to themselves, and can therefore explain to others, the function of their subject.

The Principles of History Teaching by Mr W. H. Burston sets out to fill this need, but the task is not done entirely satisfactorily. Mr Burston does not seem certain whether he is writing a text-book, or a creative work expressing his own views, an exposition of philosophy, or practical advice on classroom techniques. The book is stretched over a vast area of subject matter, ranging from the philosopher historians to the techniques of teaching children, and it is notably more masterful and confident when it leaves the campus for the school. No teacher will agree with everything he writes about the teaching of history, but every teacher will find it interesting and valuable. One could not say quite so much about his treatment of the philosophers. It is as if he were too much overawed by their eminent and forceful personalities to discipline them into a text-book. Sometimes one of them bullies him into accepting his point of view, and the phrase "historians claim" will precede a statement which half the historians of the last hundred years would probably emphatically reject. The most successful bully is M. Oakeshott, whose views predominate and are not accompanied by any real representation of the alternative views of, for instance, Croce and his distinguished successors.

Perhaps the book is a little too ambitious in that it gives much space to discussing theories of history which should by a clear decision be put out of court for any teaching of history below the level of Form VI. For instance, Mr Burston examines, and appears to support, the theory that one should study the past not for any "practical" explanation of, or relevance to, the present, but to see how societies of the past ticked in the experience of their contemporaries, and to learn the processes of social and political change by observing them happen. This involves in theory the unimaginable process of study without a hypothesis, and in effect it means working on some unrecognised, unacknowledged hypothesis; or it involves going to the archives of, say, the year 1749, and reading everything from the accounts of the tradesmen of Little Puddleton to the letters of statesmen, and so forming an "unbiassed" view of what was happening. In a book on school history, need one spend time on such a theory?

He also spends time enlarging on the "uniqueness" of each historical event. Undoubtedly every historical event is unique. However one may stress "covering laws" and generalisations, the death of Nelson remains different from the death of Wolfe, and the English revolution different from the French revolution. But since teachers struggle all the time to prevent children from confusing similarities, and since children are not

likely to be swept away by the fascination of historical philosophy, is it really necessary in this context to belabour the point?

Let us be frank about the situation which causes this preciousness about the nature of history. It is caused by the extinction of the Whig school of historical study. The Whig historians gave history a splendid dignity by using it as a "practical" subject to explain and extol English democracy and constitutional theory. They enabled the subject to flourish in both universities and schools. The fashionable denigration of their work is not justified by the fact that their task is done and we now need new theories and methods; the professors would be better occupied in supplying these instead of occupying themselves with academic disagreements which interest no-one but fellow historians, and pacifying the amateurs with local history.

Neither of these fashions, either for the meticulous examination of evidence on a subject of marginal significance, or the innocuous culture of local history, can justify solid portions of children's time being given to the subject. Nor can one justify the hopeless attempt to teach of other societies as they really were on the grounds that it is nice to be able to make comparisons.

What do children need of school history? The sense of society, its roots and forward movement, the nature of social conflict, their place and function as part of an organic community? There are many other things that children may also gain from history which there is no time to list here; some of them may properly be childish, but none of them need be frivolous. All of them demand purposive choice of limited material.

Teachers want a significant pattern of material which makes sense of the vast chaos of events. They must choose some aspect, some topic which isolates a manageable body of subject matter. We must recognise that the choice will inevitably reflect contemporary outlook and needs, but this should make the study more, not less, useful to the children. And whilst we should relate what is teachable to children with the philosophic purposes which can be justified on the highest level, this is not to say that all the philosophic purposes which adults may accept are applicable in schools.

One need make no reservations about another aid to history teachers which is now being produced. This is the delightful *Jackdaw* series, collections of information broadsheets and facsimile source material on episodes of history, which Jonathan Cape is publishing.

Each Jackdaw consists of a folder containing 15 to 20 separate items on a single episode of history. The one on *The Battle of Trafalgar* includes a large sectional plan of the *Victory* and an information sheet on shipbuilding which would engross many boys for hours; portraits and a short biography of Nelson for the hero-worshippers, and a facsimile copy of *The Times* for 7th November 1805 which contains, besides the great news, advertisement material rich in information on social history. The choice of items is imaginative, for instance there is a sheet on the Trafalgar tradition and its

record in place names, and of course there are the plans and charts one would expect.

It is difficult to pick items for comment since there is a strong personal, subjective element in the decision as to what is of outstanding interest, but certainly the Bill of Mortality for 1625 which is in the *Plague and Fire* folder brings a strange and far-off world before one's eyes, and the charts and maps in the *Columbus* folder may well start off bright children on a life-long interest in old maps.

The folders cost 9s. 6d. each. Not much when one considers that they are an almost certain passport to new understanding and more successful learning by the pupils. Three copies of each *Jackdaw* at the disposal of every history teacher, and school history should go right to the top of the subject popularity ladder.

S. JULI

T. L. JARMAN, *Landmarks in the History of Education* (John Murray, 1963, pp. 325, 25s.).

E. D. MYERS, *Education in the Perspective of History* (Longmans, 1963, pp. 388, 30s.).

A. C. F. BEALES, *Education under Penalty* (London U.P., 1963, pp. 306, 50s.).

M. CRUICKSHANK, *Church and State in English Education* (Macmillan, 1963, pp. 200, 35s.).

THIS quartet of books falls naturally into two pairs: two second editions of comprehensive, if very different, histories of education; and two new works on selected aspects of English educational history.

To begin with the former: Mr Jarman defines his theme in the subtitle as "English education as part of the European tradition", and takes it chronologically from ancient Greece to the England of "the bulge" and the Crowther Report. If in his "English" chapters the author appears to lose sight of the Continent, it is for the good reason that in education, as in much else, for a variety of geographical and historical reasons, England has evolved many practices peculiar to herself.

Because the scope of the work is so vast, it is a little uneven. In general Jarman certainly is a competent and erudite guide to his subject. Perhaps the chapters on the Renaissance and its influence on educational theory and practice, and on the factors behind the growth of the demand for popular education in Victorian England are particularly instructive. The subject is well brought to life in the sections on medieval, Tudor and Stuart, and nineteenth-century schoolboys. It is, moreover, good to find an historian of pre-war vintage taking trouble to acquaint himself with the development of economic theory, and noting its historical significance. There is, however, almost nothing on the Hellenistic period of which Marrou says "when we say 'classical education', we really mean Hellenistic education", and scarcely enough on the late Roman empire although Rand truly states that

"the fourth century was one of the great creative periods in the history of education, ranking with the twelfth, the fifteenth, and the nineteenth". The views on Sparta are rather uncritical (Ehrenberg's essays might be a useful corrective), the statement concerning ancient Greece and Rome that "the emphasis on physical . . . training was common to both" is misleading, and occasional "throwaway" generalisations on vast periods and areas such as "over the Middle Ages there had been something crabbed or cramping" or "morality reached a very low level under the Roman empire" belie the author's thorough knowledge of history.

Paradoxically, although Jarman seeks to stop the reader seeing the history of education through insular glasses, there is a certain narrowness about the book. This may be because to Jarman, as to all too many of our historians, "Europe" means just Western Europe, and even that almost shorn of the Scandinavian and Iberian peninsulas; and just who cares if a Mr D. N. Pritt of Leftist political persuasion was a product of Winchester College? There is a useful bibliography, although in bringing it up to date the omission of Barclay's brilliant *Educational Ideals in the Ancient World* is unfortunate, and if foreign works had to be included in an introductory survey, was it not idiosyncratic to list many French, some German, and no other books? To sum up: this is an informative and readable book, and Jarman's judgment is usually sound. He cuts—or follows—a well defined pathway through the forest of educational history, and it may be less than fair to conclude that here is a serviceable rather than a stimulating work, which will help many students of the subject—but will gain few.

If the last book takes us past the landmarks of educational history along a fairly narrow path, Professor Myers' work, also in keeping with its title, opens up a huge vista. He is a disciple of Toynbee, avowedly seeking—with the master's blessing and co-operation—to depict the role of education in the development of mankind as schematised by Toynbee. He thus adopts the latter's division into primary, secondary, and tertiary civilisations (of which 13 are considered and a further 6 briefly mentioned), the challenge-response formula of their genesis, and, for most, the life-cycle of a period of growth, time of troubles, the universal state, disintegration and/or interregnum, and the rise of an affiliated successor-civilisation. The author attempts to relate educational ideas and institutions to this meta-historical rhythm, and, through it, to problems confronting us to-day.

I must confess that I embarked on the reading of Myers' book with some prejudice: it is long since Toynbee's scheme of universal history held me in its thrall, and a bad old habit of glancing first at the "scholarly apparatus" quickly revealed that in addition to borrowing someone else's general outline, the author relied wholly on secondary works of modern scholars for the content of the book. This, however, is a valuable work: one to read and enjoy, then to re-read, ponder, and follow up.

Its value is partly independent of the Toynbeean mould, and subsists in presenting in a mere 220 pp. of Pts. II and III a large amount of

purposefully assembled and relevantly interpreted information, much of it far from easily accessible. The dictum that "there is no new thing under the sun" is, time and again, brought home to the reader: the "Sinic" civilisation of China knew boarding schools for the elite 2,000 years ago; the post-Alexandrian Hellenistic world had to cope with overexpanding curricula; Japan experienced the divorce between the written—Chinese—language of the educated and the spoken vernacular of the people long before similar problems troubled any European country; in fifth-century B.C. India the learning process was analysed with due attention to the importance of motivation; the Talmud, codified by the Hebrews in the second century A.D. insisted on a teacher : pupil ratio of 1 : 25 (here Myers is most unrealistic in deducing that "overcrowding of classrooms did not exist"); and there surely must be some lessons for to-day's underdeveloped countries in the educational views and policies of Peter the Great of Russia. At the same time, the Toynbee vision, for all its vulnerability, not only demands a global treatment, which is a powerful antidote to most readers' inherent parochialism, but gives the historical perspective of the survey an extra dimension.

Professor Toynbee himself appends a lengthy and penetrating chapter of "Conclusions". He dwells, *inter alia*, on the near-unmanageable expansion of the body of knowledge since man embarked on a deliberately organised search for more, and on the problem of communications. It is most enlightening to see how his study of the past enables him to put his finger on a problem which our sociologists and educationists have been busy discovering only in the last few years (cf. most recently *The home and the school* by J. W. B. Douglas) that: "when children with a poorer cultural heritage are admitted to the minority's schools, they find it difficult to obtain as much benefit as their privileged schoolfellows obtain from the same course of formal education because they bring less with them."

Although Myers' work ranges in time through all recorded history, and in space from Japan to Peru, it manages to be neither hurried nor obscure, and his generalisations are seldom uncautious. Contrary to the "blurb" it does not "examine Western culture as we know it to-day", but frequently underlines or refers to its problems. There seem to be gratifyingly few errors (Diocletian abdicated, not died, in 305, and the spelling "Timur Lane" is inadmissible) but the scope of the book does not excuse a tendency to state unequivocally as facts controversial interpretations, e.g. on the origins and baptism of Russia, or half-truths, viz. "the Spartans did not send teams to the Pan-Hellenic games". And if this book goes, as it deserves to, through further editions, some repetitions might be pruned, and it would greatly benefit from the inclusion of maps.

Professor Myers takes a broad theme and writes what might be called "macrohistory". Mr Beales' theme is strictly circumscribed and, naturally, the treatment is "microhistorical". It must be many years since the Reader in Education at King's College, London, last produced a book—and it is

likely to be far more years before this one is superseded. The depth of treatment, maturity of judgment, and wealth of references, all bear witness to its long gestation.

It is hard to appreciate within months of experiencing a great wave of public interest and sympathy at the death of Pope John XXIII that only ten generations ago Roman Catholicism was, in effect, proscribed in England (or, for that matter, that England ceased technically to be "a missionary country" only two generations ago). The present book describes the struggle to erect the educational provisions that enabled English Catholicism to survive through the age of general intolerance from mid-sixteenth century to the end of the seventeenth. It is a sad if brave chapter in the history of English society—and, in a world perspective, it is also a chapter in the long story of educational persecution for political reasons that began when Julian the Apostate sought, with some consistency, to ban Christian teachers, 1,600 years ago, and plumbed new depths when the Nazis closed down institutions of secondary and higher education in parts of occupied Europe.

Although under the Tudors "the government was not immediately well-equipped to molest", its use of the control of the *licentia docendi* and the growth of general penal legislation, forced on the Recusants "a policy which, at the outset nothing more definite than one of training priests in exile to return to England as missionaries, became through the pressure of events an educational policy at large, for clergy and laity". We are given illuminating accounts of the work and difficulties of the seminaries and schools abroad from Rheims to Rome, as well as of the dangers of clandestine Catholic education at home. We follow the vicissitudes of the Recusants through the uncertainty of the early Stuart period, their fears under the Commonwealth when the Puritan foe "knew the tactics of resistance from inside experience", their disappointed hopes under the naval James II who "psychologically . . . saw his throne as a quarter-deck and his advisers as subordinate officers", until by 1700 the much-diminished Catholic population of England could still, apparently, obtain as adequately as in 1600 the kind of education it wanted.

Rightly lamenting the irreparable shortage of evidence, Beales yet supports his exposition with a wealth of case-histories. These add to the depth and readability of the book, although in view of their absolute paucity one should be very cautious in generalising from them. There is a model 17 pp. bibliography, which will be invaluable to future researchers in this field.

It is perhaps, in one way, a measure of our socio-ethical progress since the Stuart days that within the last century the state and the different denominations have been increasingly concerned to come to terms with, instead of trying to eliminate, one another. In the 1870s the state began to supplement and, inevitably, rival, voluntary church bodies in the provision of popular education. Dr Cruickshank's book, dealing with the developments from 1870 to the present day, explains how in spite, or possibly

because, of an initial situation wherein, in another's words, the partisans of different denominations "preferred to see the children uneducated rather than educated by their rivals", the secular authority gradually persuaded them into the compromise of 1944.

The author draws on a considerable variety of contemporary sources, as well as on the personal encouragement of Mr R. A. Butler to produce a valuable study in the politics and diplomacy of the English statutory system of education. If we agree with her lament over Forster's Act that "the churches and school boards instead of being partners in the work of education, were to be rivals and competitors", then the story she tells is an important facet of transforming that relationship into a positive partnership. The background of the 1902 Act is competently elucidated, and it is no great exaggeration to say, more in sorrow than in anger, that: "amid all the turmoil and excitement, the educational aspects of reform had been very largely overlooked"; it is harder, perhaps to agree that after 1902 "national education was at last to be in the hands of experts instead of amateurs"—for it still largely is not so. There is an interesting discussion of how and why the Liberals failed to dislodge Balfour's Act after coming to power in 1906, and since in works of English educational history the figure of Sir Robert Morant usually overshadows all else in the first decade of the twentieth century, it is good to see for once justice done to the work and wisdom of Augustine Birrell. On the later period, there is some particularly useful detail furnished of the negotiations leading to the Coalition Government's Act of 1944.

It may seem surprising that so obvious and important a topic had not previously been examined in a monograph, and, as far as the general reader is concerned, it is something of a pity that Dr Cruickshank does not take a broader view of her subject. Its interconnexions with the general political and economic circumstances of the time are only slightly touched upon here and there. There is little attempt to relate the developments she traces to the lessening hold of organised religion on public and private life, or, above all, to the transition in the ruling social philosophy from that of —retreating—*laissez-faire* to that of the welfare state. But she should earn proportioned study.

R. SZRETER

DONALD MATTAM, *The Vital Approach*, Comment on the teaching of English to pupils between the ages of 8 and 15 (Pergamon Press, 12s. 6d.).

"THESE anthologies . . . appear to be excellent for secondary schools, but they are not yet represented in the following lists, because I have not yet had sufficient experience of them in school." This statement typifies the author's modesty and integrity—to which, after looking at the full lists of poems that follow—one could add, usefulness. This attitude gives con-

fidence in the abundance of advice and great masses of teaching material offered: one feels that he is a very safe guide for the inexperienced teacher of English. To this must be added, that with the safeness goes, inevitably, a certain lack of adventure. The new teacher will not find himself led by this book into strange interludes in the classroom, the children will neither run riot nor attempt impractical and disappointing exercises; equally I feel that he may not find the moment when his English teaching becomes intensely exciting. But I must repeat that this book deals a hard blow at the old Philistine image of training college—that it is mad and impractical, that “you’ve got to forget all that sort of nonsense now you’ve come here, my lad”.

On the contrary, it is overflowing with common sense (for example, in what it has to say about letter-writing, an exercise all too often ruined in school), and a sure instinct for what interests children. It has been arranged in a useful way: every chapter is followed by an appendix of good material and interesting suggestions (look, for example, at the groupings of poems, under themes, suggested from p. 81 on). Each chapter corresponds to one of the traditional divisions of the teaching of English; but though the author points out that these should be synthesised in practice, he does not do very much himself to promote this, or to arrange his material in a way that would lead the teacher to do so. He would probably reply that this would be muddling, and one must agree that one of the features of the book is its clarity and accessibility.

When each individual teacher starts looking at the sections separately, he must find, somewhere in so individual a subject as this, that he bumps up against an alien, and unacceptable, point of view. I personally am driven to quarrel with the approach to Drama. He prescribes unscripted work for the junior school and the first two years of the secondary, and then reveals that he regards this in the main as a preliminary to the acting of scripted plays from the third year on; this is to include the classroom production of one-act plays and—heaven save the mark!—of groups of scenes from Shakespeare: the crown and culmination of all. This view of drama in the classroom was taken many years ago by Caldwell Cook; the author has somewhat modified it in the light of current junior practice, but still apparently fails to take into account Peter Slade’s revolution, for his thirteen-pluses.

This lack of confidence in improvised drama as something, at any age, *worthwhile in itself*, prevents him from using it freely in Oral English. Here, his difficulties in the very valuable section on “conversation” might be solved by using dramatic situations where the whole class, in pairs, would be talking at once. (Neither mad, nor leading to riot; but frequently used.)

Again, one cavils at a poetry-reading-list which, however splendidly rooted in the past, more or less stops short at the Georgians. For example, one would like to see, alongside the author’s collocation of Blunden’s and

D. H. Lawrence's poems on pike, the splendid poem on the same subject by Ted Hughes.

The chapter on Written Expression is sound; his commonsense attitude is seen in the statement "It is not the duty of the teacher to force or train all his class to write at length; his work is done if the majority have mastered the writing of soundly-constructed and accurate paragraphs . . . the exceptional child may be encouraged to write at what length she pleases." Sensible enough, though one is a little sorry for the *un-*exceptional child; she is never to be encouraged to have a go, to experience fluency by biting off some really large chunk of experience, to write about at length, however full of errors the writing might be. (It would also require a revised approach to the problem of marking; but it can be done.)

The restricting aspect of this down-to-earth attitude has just been quoted; in the main, the attitude shows to advantage, as here:

"where a poet obviously presumes that his reader will possess a certain background of knowledge, it is a waste of the teacher's introductory reading to postpone the giving of that knowledge."

Obvious, one might say; and yet, in the fiercely debated field of the teaching of poetry, a statement to be respected. He is not afraid to have a poetry lesson prefaced by sheer information from the teacher, nor is he afraid sometimes to discuss a poem to bring out its essential point; the "don't brush the colour off the butterfly's wing" school of aesthetic timidity gets no support here. In a modest, quiet way he gives some very good advice:

"for example, it is worthwhile to chat about the final words of De la Mare's 'Jenny Wren'—

a tiny inch-long, eager, ardent Feathered mouse

—because they are the peak of the poem's achievement, the creation in words of the quality of the wren. To decide whether or not a poem contains key-phrases calling for discussion of this type is part of the teacher's preparation." Here are displayed his own sensibility, the typical clarity of the advice to the teacher, and the unpretentious nature of the word "chat", which suggests that Mr Mattam's own teaching of poetry would be hard to resist.

It is a sad fact that there are still too few books on the teaching of English which really concentrate on young juniors. This book would be particularly useful to the teachers of top juniors, of secondary moderns, and of the young and middle forms in a grammar school. They would, perhaps, do well to use it side-by-side with the new publication from the West Riding authority. Both are moderately priced, and the balancing of, in some cases, revolutionary reforms with Mr Mattam's excellent middle-of-the-road techniques should be very profitable.

G. W. CANHAM

DAVID HOLBROOK, *English for the Rejected* (C.U.P., 1964, 30s.).

IN order to gain attention in a crowd, the missionary may sometimes have to shout. For some years now Mr Holbrook has done just this. Never before has a single writer so conscientiously and exhaustively battered the ears of the teaching profession with a personal evangel. In the early years of his prophetic mission, his ardour led him into various pitfalls—dogmatism, exaggeration. His utterances in both periodicals and the daily press have covered a surprisingly wide field, but have not infrequently alienated potential allies. His first book on English teaching, *English for Maturity*, though it received a good deal of attention and generated much valuable thought and discussion, was in fact a diffuse, disarticulated and rather tedious piece of work.

Even at his most irritating, however, he has earned the teacher's gratitude: he has directed public attention to topics too long neglected and has thus given a notable lift to the morale of a large section of the profession. In a sense he has been valuable *because* he has been irritating; his voice has been stridently compelling enough to force his opponents to examine and define their own aims and values more clearly. This in itself is an achievement in a profession which has been altogether too diffident about thinking in such philosophical terms and has been content to follow the uninspiring but "safe" rules of thumb that had been proved by previous generations to make "for a quiet life".

The stature of Mr Holbrook's achievement can only be increased by the present volume, however. *English for the Rejected* seems to me a much better book than *English for Maturity*. The source of this superiority is indicated in the titles themselves, Mr Holbrook's latest book suggesting a more rigorous limitation of scope—a clearer and sharper focus than the striking but vaguer title of the earlier work. The author has in fact confined himself to that area of English teaching which he knows best—the "C" and "D" streams in the secondary modern school—and as a result he writes with a crisper authority and his style is tauter, more muscular, more temperate and much more engaging.

One gains this impression from the first pages; the introduction is a striking and pretty unexaggerated indictment not only of the normal situation of the "duds" in a secondary modern school but also of the way their treatment reflects the inadequacy of prevailing social attitudes and values. The book is inspired by the author's sympathy for the teacher in such circumstances, as well as for the child, and he seeks "to give authority and prestige to the teacher of the less-than-average child". The relevance to the present situation of this aim is starkly borne out by the letters from teachers, describing the handicaps under which they labour, which form one of the appendices to the book and which offer strong support to the author's argument. I cannot help feeling—as well as hoping—that this book may do a great deal to draw attention to the criminally inadequate provision for education at this level in many parts of the country. It is

not merely a matter of inadequate money, however; as the author repeatedly points out, the greater sin against humanity lies in the lack of thought. This he rightly condemns on the grounds of inefficiency as well as inhumanity and one can only hope that the former argument may succeed where the latter has failed. It is significant that the Newsom Report appears to have slid into oblivion as a result of the general preoccupation with the findings of the Robbins Committee. It deserves to be rescued from this fate, and to be read in conjunction with *English for the Rejected*, for the pictures they present are complementary and the problems they pose are vital.

Physical conditions alone need not undermine the teachers' morale, however, and the teachers' role as described by Mr Holbrook—though it appears daunting enough in all conscience—is designed to sustain and re-inspire some of the most jaded. Such inspiration may come, for example, from the second chapter's unusually perceptive examination of the difficulties—of the need to bridge, by imaginative sympathy and rigorous self-discipline—the gulf between the different worlds of teacher and pupil. The dabbling in amateur psycho-analysis à la Melanie Klein which has irritated many, sometimes with good reason, appears in the present book as little more than an individual bias—an aspect, indeed of the author's insight into teacher as well as taught; though one may quibble occasionally with an interpretation, this preoccupation with analysis is under a much firmer control than hitherto and as a result Mr Holbrook's observations are nearly always helpful.

This is true also of the third, and central, section of the book, in which the writings of a class of nineteen backward children are quoted and analysed. Here, instead of the sexual interpretations appearing as reflections of an almost obsessive preoccupation, they seem merely a realistic acknowledgment of the nature of the children under review. If the teacher is to base his work in English on a proper appreciation of their inner needs, their growing sexual awareness is something which he must take into account. If Mr Holbrook still pays more attention to this factor than some would like, this is probably all to the good, since too many are concerned to ignore it altogether—a much more serious fault.

The second stumbling-block for many in Mr Holbrook's writings has been his free use of the term *phantasy*, which has at times sounded like a special battle-cry of his own invention, and has appeared to some as an invitation to a neurotic withdrawal state. No such charge could be substantiated on the evidence of the present volume, however, where the phantasy is shown clearly and repeatedly to be merely the beginning of a path leading to an enhanced ability, to cope with external reality—to "an exploring realism", as the author puts it.

The analysis of the children's work and their writings themselves are a moving testimony to the author's attitude to his charges. So too are the delightful little portraits of each child with which the author prefaces

his quotations and comments. The quality of these sketches is such that the author is able to use convincingly phrases which out of context would appear slushy: even the expression "brave and lovely child soul" can be accepted almost as a statement of objective fact after the compelling analysis that precedes it.

The fourth chapter, "Rules for Oneself", is so admirable that it is difficult to describe without extensive quotation. If I may seize on one particular point, I must draw the reader's attention to the way in which the author elaborates on the need for creating an atmosphere of positive achievement. Throughout the book indeed the necessity for praise and consistently tolerant encouragement receives repeated emphasis. This theme has rarely been more eloquently treated.

I have said nothing about the practical suggestions the book offers. They are there, and will undoubtedly be found helpful, but they are less important than the way in which the author reveals his basic attitudes and almost lets us see him at work. There may also be faults which I have left unmentioned—I find the psycho-analyst's notes somewhat tedious, there is also some exaggeration and some one-sidedness but these are very unimportant criticisms. As one who in the past has often been intensely irritated by Mr Holbrook, and yet in sympathy with him, I find it very pleasant to conclude without any such ambivalence. This is a fine book which deserves to be widely read.

J. W. PATRICK CREBER

A. B. CLEGG, *The Excitement of Writing* (Chatto and Windus, 1964, 13s. 6d.)

ROBERT BOOTE, *English Language for Sixth Forms* (Blackie, 1964, 10s. 6d.). *The Excitement of Writing* is a book produced from written work in his county by the Chief Education Officer for the West Riding. It contains many very vivid passages of writing of all kinds, and a commentary, some of it by Mr Clegg, some of it by the teachers concerned, on work by children from infant school to sixth form. Quite simply its message is that good English does not come about through studying grammar, or through doing exercises involving the filling in of blanks in sentences, but through experiencing, through reading, through writing, through having something to say, through feeling the power of words; through, as the title has it, "excitement", and excitement which is not wild and uncontrolled, but which comes just as much in the pinning down of an exact meaning as in the expression of fantasy.

But, excellent as the book is, it rather saddens one to read it. What it says is so basic. For years good teachers have been teaching on these principles; for years have been advocating them; they should be such commonplaces that we scarcely notice a book based upon them. Paradoxically the fact that Mr Clegg's book has attracted such attention is a sad comment on the present state of so much English teaching.

Mr Boote's book saddens one in another way. Yet in a sense it is quite notable; it is seldom one comes across a book which contains so many of the things one would emphatically *not* do with sixth formers—from "common grammatical errors" to figures of speech and spelling rules. It is intended to prepare candidates for the "Use of English" paper and the author is an examiner for the NUJMB. It is beautifully printed and attractively bound in a modern style; but the content is appropriate to the English teaching of forty or fifty years ago. Mr Clegg's book was certainly needed—but how much good will it do?

ANDREW WILKINSON

J. KENNETH DOHERTY, *Modern Track and Field* (second edition, Prentice-Hall Inc., Englewood Cliffs, N.J.; first British edition, Bailey Bros. and Swinfen Ltd., London, 1963. 35s.).

ATHLETICS has taken its place as an integral part of physical education in schools and as another "sport", or recreative activity, which attracts large numbers of people long after they have left school. In these modern days, athletics is no longer confined to a week or two of training to be followed by an "athletics sports day" and then put on one side until the next annual sports, indeed, it has become a very serious business as is evidenced by the amount of research which has taken place about it and by the intensive training that our athletes are required to undergo. It is well illustrated by the modern Olympic Games and it is appropriate in "Olympic Games Year" that a new book on athletics should be published, especially when it is by an author so well known and so highly esteemed as J. Kenneth Doherty.

Modern Track and Field is not really a new book; it is an entirely up-to-date version of Mr Doherty's earlier book which was published in 1953. This new version is, however, the first British edition. According to the author the book is intended to improve the performance of athletes and coaches, and with this end in view, all the major track and field events have been analysed in detail. In every case the history of the improvement in form and time, or distance, is given and this leads quite easily and naturally into a discussion of the essentials of correct form. It is here that the author draws extensively both on his own experiences, on the experiences of others and on the results of the many researches that have been carried out on the various events. The organisation of practice for the events is also discussed in some detail, here again the author gives his own views on training, but he is wise enough to recognise the individual approach to the problem and in many cases he goes on to give the practice schedules of other coaches and of the more successful athletes.

A fairly extensive list of references has been used throughout the text; the book would have been enhanced had these been collected at the end of each chapter. There is, however, a short appendix giving names of periodicals and books on track and field athletics which will be of tremendous value to athletes and coaches.

In many ways it is a pity that the author decided to omit "long distance" running from his list of events to be studied but as he points out this section is "so varied and lengthy that it reaches beyond the scope of this book" (p. 249), he does give a list of recommended reading for those interested in long distance running at the end of the excellent chapter on Endurance Running (p. 254).

This is a very readable book, it is well illustrated and it should fulfil the stated aim of the author.

J. N. OLIVER

NORMAN K. HENDERSON, *Statistical Research Methods in Education and Psychology* (Hong Kong: University Press; London: Oxford University Press, 1964, 30s.).

THE author intends "to introduce students and teachers without special mathematical training to the basic principles and techniques of educational and psychological research and in particular to the procedures of measurement in these fields". In spite of this the contents are in large part typical of the many text-books already available on elementary statistics. The chapters on data tabulation, averages, standard deviation, standardised scores, normal distribution, *t*-test and correlation techniques offer the usual fare without any originality or special flavour. The four remaining chapters contain some good advice on research planning and the like, but since many of the concepts and techniques referred to are beyond the scope of the rest of the book, they give the impression of "window dressing" a rather ordinary text.

Like others before him, Professor Henderson claims that "An effort has been made to keep all symbols and formulae simple and non-mathematical . . .". This is certainly not evident. Comparison of the formulae and symbols used shows the difficulty that the author has had in determining the conventions to be followed. There is a serious lack of consistency in symbolic expression, so important in an introductory text: sometimes there are subscripts; sometimes the subscript is implied by a bracketed expression following the main variable; and sometimes the subscript expression is not identified as such at all. Take, for example, the important chapter on comparing two groups of scores. The formula for the standard error of a mean difference is given as

$$\sigma A.M._1 - A.M._2 = \sqrt{\sigma^2 A.M._1 + \sigma^2 A.M._2} \quad (\text{p. 79})$$

This expression is neither mathematical nor verbal! In the formula for the *t*-ratio itself (p. 82) another sigma symbol appears quite meaninglessly on the left-hand side of the above expression. Two pages later the two versions of the same expression are given on consecutive lines. A further page on, formulae are written with second order subscripts and, presumably through bad proof-reading, they have second order superscripts

as well, giving an expression a mathematician would find impossible to disentangle.

Elsewhere the "cook-book" approach is much in evidence and, quite frankly, many sections appear to be first drafts. There are numerous phrases, sentences and paragraphs which must be either meaningless or seriously confusing to the student. This expensive paperback has little to recommend it.

PHILIP LEVY

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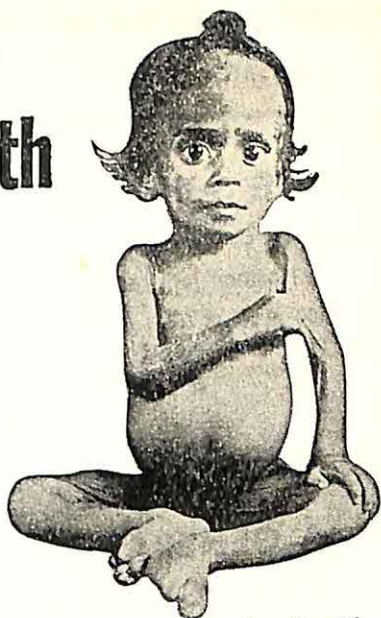
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INSTITUTE OF EDUCATION
UNIVERSITY OF BIRMINGHAM

A BASIS FOR ART EDUCATION

by ERIK FORREST

Senior Lecturer in Art Education, Birmingham College of Art

I

THE term "basic course" has now gained wide currency in art schools, training colleges and schools of general education. It would be difficult to define it simply; perhaps the chief thing that most basic courses have in common is that they are derived in some measure from the pedagogical ideas of the Bauhaus. Klee, Kandinsky, Moholy Nagy and Walter Gropius, the director of the Bauhaus in its most productive days, have all written on the ideas which were developed there during the twenties. These ideas were much elaborated and exploited in the U.S.A., and in recent years have had a strong influence in this country and throughout Western Europe.

There was earlier a genuine puzzlement about the relevance of all these squares and rectangles, these apparently meaningless arrays of dots, these strange constructions in balsa wood or polished perspex. This has now given way in a rather frightening number of cases to a willingness, indeed an urgent desire, to leap on to this particular band-wagon. The jargon phrases, "visual semantics", "fundamental grammar", "families of form", and so on, are widely used, and the art teacher who is either unwilling or unable to participate invites the appellation "square", "reactionary", even "humanist".

In the resulting controversy it is a pity that so many people find it necessary to take a definite position for or against. The issues are not simple ones, and heated partisanship does nothing to make them clearer or more understandable.

Gropius described the preliminary course at the Bauhaus as follows. "Practical and formal subjects were taught side by side so as to develop the pupil's creative powers and enable him to grasp the physical nature of materials and the basic laws of design"(1). Even if it is not possible to be as exact in one's definition of the "basic laws of design" as Gropius suggested, yet at that point in the development of art education such ideas were a necessary revolutionary step

in an area which seemed to be moribund and self-perpetuating. One of the great merits of the Bauhaus approach was that it recognised that art was a part of life and should be related to contemporary society. It has taken art educators almost thirty years to grasp what Gropius was suggesting in practical terms for the content and direction of art education; it might be unwise still to assume that they have all grasped the fundamental import of his ideas.

It was obvious in art schools after the second world war that there were doubts and dissatisfaction about most of the methods and curricula in use, and while, at first at any rate, a great deal of inertia had to be overcome, the case for a complete reconsideration of the current content and of the teaching methods and techniques became stronger and stronger. What seems to be needed now is constant reappraisal of these new courses in the light of experience gained with students taking part in them, and in the light of new ideas in teaching generally.

To attempt to discuss some of the fundamentals for art studies is an enormous task; all that will be attempted here is to suggest some of the factors involved and to try to suggest some ways in which the fundamental requirements might be satisfied. Obviously there are many different ways. In the art schools courses have always had to be designed with one eye on the Ministry of Education's examinations. Now that the Ministry will no longer set the final examinations we may hope to see quite different courses arising.

II

Taking part recently in an assessment of the work of students at the end of their first two years' training, it was obvious that different teachers based their judgment of the work shown on very different things. The view was expressed, and many of the panel were in agreement, that one was attempting to judge these students as "artists" while knowing full well that, at most, 2% of them had any prospect of finally coming into that category. But further observation and discussion revealed that only a very limited view of the artist was being examined. Qualities of organisation, of sensitivity to the physical environment, these gained high marks, and rightly so, but one could not avoid the rather conscience-stricken feeling that while these were important qualities, perhaps there were others just as important which were not capable of assessment in this way. After all there have been very good artists, to say nothing of textile designers, typographers,

graphers, and product designers whose work did not depend to any large extent on these particular qualities. As a basis for designing a syllabus it might be better to identify a rather wider range of desirable qualities, and having done that, to consider what broad areas of study and experience would best enable the student to develop these.

III

To make some sense of this complex problem it would be well, initially at any rate, not to deal with theories, but instead to consider first the whole situation, of which these problems, the problems of curriculum, the problems of staff attitudes and so on, are only a part. In discussion of these problems it is easy to almost forget the student, to forget what he brings to the art school when he turns up on that first September morning, to forget that he arrives with certain desires, certain ambitions, certain aptitudes and abilities, certain attitudes and prejudices. Without knowing something of these, and therefore of what the students reactions to one's teaching is likely to be, much of one's theorising can be a complete waste of time.

If art teachers are asked what characteristics they like to find in their students, very few would stress the attainment of certain standards in drawing or skill in the use of particular media; many would consider as most important a genuine seriousness and enjoyment in the student's attitude to art studies. Such an attitude may be found in students with very widely differing backgrounds: some may have been taught by conservative art teachers whose ideas about art have not changed or developed during the last thirty years, some may have come under the influence of young art teachers, recently out of art school, full of enthusiasm for the latest trends in action painting, hard-edge abstractionism, or pop-art; the good students in either case are likely to share the feelings of pleasure in using paint or clay, and the enjoyment in serious attempts to organise shapes or forms into meaningful relationships. Their levels of attainment may differ widely, but their inner seriousness will be evident. In the long run, such considerations are the important ones in assessing the suitability of a student for *any* form of higher education; what is important is not how much he knows, how skilful he is in dealing with his subject, but rather how interested he is, how enthusiastic he is, how much he seems willing or able to participate in the processes of thinking and feeling which his particular subject demands. This is surely worth remembering when one finds the art school, like the university or training college, beginning to demand more and more academic attainment as

measured by "A" level passes in the G.C.E. Most university lecturers would assert, and recent research bears out these assertions, that there is little correlation between "A" level results and attainment at degree level, let alone at the professional level of, say, five years after that first degree. This is not to deny the importance of a good educational background for the intending art student, but he, more even than the average university student, will suffer from a sixth form course which concentrates on narrowly specialised work for "A" level G.C.E. Whatever procedure is adopted then, for selecting the art student, the main consideration should be his attitude to his subject, and great care will have to be taken not to write off candidates from schools where the art is taught in such a way that the results look old-fashioned and conservative.

Given something of this enjoyment in, and concern for his subject in the student, what is going to be the basis for designing his pre-Diploma or foundation course?

Perhaps one could start with a negative proposal. It would be wise not to destroy these attitudes we have been describing; this enjoyment, this pleasure in handling tools and materials, may be of fairly recent origin, may have depended on active support from the art teacher, may not have yet gone very deep—these things can be destroyed. A student of seventeen is not likely to be as rational in his attitude as his teacher, and while he may respond well to a new exciting course quite dissimilar from his previous training, strong continuous denigration of the values held by his previous teachers may do a great deal of damage. A good art teacher in school, while having certain broad ideas about his subject and about the changes in attitudes and values he wants to see happen among his pupils, is conscious of the fact that he does not inherit a virgin situation; his pupils have been at school for some time, they have absorbed ideas about art from their parents, their homes, their friends, from newspapers and magazines and television, and they have acquired attitudes to life, to work, and to their environment. The teacher may often feel that part of his job is to destroy some of the prejudices that have been built up, but he is unwise if he does not also recognise that the situation which exists contains much that will help him to do his job well. This suggests that the student must be treated as an individual and that at any rate some parts of the course will allow and actively encourage very differing individual efforts.

Bronowski in his book, *Science and Human Values* (2) discussed at one point the values and attitudes of scientists as a body. He wrote,

"the values of science derive neither from the virtues of its members, nor from the finger wagging codes of conduct by which every profession reminds itself to be good. They have grown out of the practice of science, because they are the inescapable conditions for its practice." And he goes on to show how the necessity in scientific work for originality and independence results in the public necessities of dissent and freedom. Scientists ignore this at their peril, writes Bronowski—no amount of skill in the handling of scientific techniques can make up for the rejection of these values. In Art the same kind of truth is evident—the practice of art consists in a certain interplay between private and public requirements, between expression, self-expression if you like, and the necessity for an artist to be true to himself, and communication, the importance and eventual necessity for what the artist has to say to also have some meaning for other people. Art education needs to pay attention to these two requirements and at some stage to evaluate the relationship between them.

It would be simpler, of course, if all art students required exactly the same training, if these two things, expression and communication, were of equal importance to artists of all different kinds. The fact that this is not so has led in some countries to systems in which different colleges serve the needs of different kinds of art students; in Germany, for example, after preliminary courses which stress visual awareness and certain standards of skill and sensitivity in the student's work with different media, art schools are divided into those which deal with fine art (normally part of a university), with graphic design, or with industrial and product design. There is something to be said for this approach; the problems of communication, for example, are of a very different order for the artist designing a poster, a vacuum cleaner or a picture. Perhaps different in kind as well as degree. How can we hope to cope with all these different needs?

We must not forget that most art students come to art schools with only vaguely held ideas about their artistic futures. We cannot expect them to sort themselves out into these different categories at an early stage. Is it then a question of bringing things down to an irreducible core—a core which we feel is essential for all of them? We might find that this common core is very small indeed, but it might be the most important thing we can provide for art students—a basis which might be reflected in a later understanding among different kinds of artists, where at present, so often, only discord and misunderstanding exist.

IV

Taking the German example once again, it was mentioned that most of the specialist art studies are preceded by courses which stress visual awareness and skill in using different media. Such courses would look strangely old-fashioned set alongside the Bauhaus Vorkurs, though it is important to remember that students of the Bauhaus were not usually just starting their higher education. These preliminary courses concentrate on developing in the student a sensitive appreciation of his surroundings, and a growing awareness of the nature of things visible. No attempt is made to link this up with producing "art" so that there is no body of prejudice about the nature of art to carry over into the specialised study. This would be one way of tackling the problem of the preliminary year, and it is not quite such a fuddy-duddy way as it might at first seem; no-one is likely to deny that it is important for people working in the fields of visual art to have sensitivity to the world they see around them. Even in Germany, however, the form that the studies take often appears to the students to have little significance or relationship to ideas current midway through the twentieth century, and often seem to hold only an academic interest which does not engage their full active participation. And yet I think we must accept as *one* of the requirements of a basic course that it should foster in some way the student's interest in and understanding of what he sees around him. This kind of sensitivity forms *one* aspect of the experiences which the artist may express in his work.

The great difficulty is to keep distinct, sensitivity to visual impressions on the one hand, and the problems of expression and creativity on the other.

The conventional art school studies of drawing and painting from still life, landscape, plant forms, and the figure, seem to me to be impure in so far as they tend to ignore this distinction between representation and creation. There have been valiant efforts recently to produce a kind of "analytical" drawing where the emphasis is placed on structure and growth rather than on imitation. These have been only partly successful; where the imitative content has been removed, it has often been replaced by a stress on the "image" content of the charcoal marks or oil-paint patches on the white paper. Once again study has been confused with creation. It is possible to see this as a way of enlarging the student's understanding of the relationship of form to content, but in most cases it seems to merely

furnish the student's mind with a particular "art" vocabulary of a kind which as inevitably creates an art style as did the imitative life drawing at art schools between the wars. The indignation which results from an assertion of this kind suggests to me that most apologists for present-day "basic" courses are only too conscious that this is precisely what does happen.

In a recent issue of *Motif*(3), William Turnbull talking to Maurice de Sausmarez says this: "I am trying to teach something which is basically academic. My quarrel with 'academic' art training to-day is that it is not academic, it is simply a way of teaching an out of date attitude. Of course it can be just as dangerous to teach basic design as a recipe for making abstract art. One must start by insisting on the difference between teaching a grammar of a language and teaching an aesthetic, between the study of fundamental factors and the making of an art."

De Sausmarez replies: "This visual grammar of form you would consider fundamental to any sort of art and you are absolutely unconcerned about how a student makes use of this basic information later on, is that so?"

Turnbull, "Yes. What is learnt should prove just as useful and as valid in examining a piece of baroque art, a renaissance work or a modern painting."

There are many red herrings and inconsistencies in that conversation, but to remain for the moment with this very important question of whether or not "basic course" ideas are likely to lead to a "basic course" style, one might say this: artists should know better than most that it is impossible to separate form from content, and it therefore seems likely that the pious hopes expressed by Turnbull and de Sausmarez are doomed to disappointment. Just as it was impossible to teach an "Italianate" or "Graphic" type of drawing without in the one case instilling a fundamental belief in the values of academic and renaissance ideas, or in the other a belief in the importance of the "literary" or "subject" content of art, so equally it is impossible to teach "basic" drawing and form construction without also inculcating something of the philosophical tenets of Klee or Mondrian or Kandinsky. Thomas Munro, the American critic, puts it like this: "It is a mistake to assume that students can acquire a 'thorough' grounding in a traditional technique and then easily change over to something different later on. Intensive drill in any particular technique necessarily involves a tendency to acquire certain habits of thinking, imagining, and creating associated with that

technique. (The student) may acquire traditional aesthetic ideals, standards and conventions of forms along with the traditional technique"(4). One would be blind indeed to feel that this applied to the work in art schools before the war and not also to much of the "basic" work being done in art schools to-day.

It is interesting too that Turnbull uses the word "examining" when he talks about "basic" ideas in relation to different kinds of art. It may very well be true that the kind of understanding gained from Turnbull's course would be helpful in a critical analysis of historical as well as contemporary works of art, but this begs the question of how widely and freely motivated the student-produced works of art will be after such a course.

Perhaps, then, it would be better to avoid linking visual awareness with art processes at all, or a harmful domination of one style is inevitable. This is a difficult ideal to attain. Some of the earlier basic course exercises which confined themselves to purely mathematical and geometrical analysis would seem to have a place. A book like d'Arcy Thompson's *On Growth and Form* (5) suggests other directions which are possible. Apart from its rather curious views on evolution and animal development, this book is full of details of experiments, some quite simple, some perhaps only to be undertaken by students with experience in higher mathematics, which would be of enormous benefit to the art student. A different kind of sensitivity is called for here. There is a magic in the mathematical basis of natural forms which is likely to prove both fascinating and heuristic to the keen student. The necessity, too, in making these experiments, for a high degree of accuracy and delicacy in the techniques used would provide a different and exacting discipline. Much work could be done without making marks on paper at all; photographing, collecting, assembling and displaying natural and manmade objects would seem to be appropriate activities. Work with microscopes, and elementary surveying and map making might be fruitful. Much of this could be combined in group projects. This will be discussed more fully later.

V

In the same edition of *Motif* already quoted, Maurice de Sausmarez has this to say:

It is frequently objected that the planned and systematic investigation of basic forms and factors of construction without allowing for free expression through personal image-making will deaden the student's imagination and

creative talent and produce a stereotype. This argument might have some serious weight if there was a tacit rejection of any other work done from the student's own volition, but this is not so. The student is free to do what he wants to outside the Basic design curriculum—if in fact he does nothing, then one must conclude either that he is bone idle or uninterested, or that he has no imagination at all, in which case there is no good reason for him to be at an art school in the first place.

It is also abundantly clear that 75% of the students in art schools are not imaginative talents at all, but can more surely be helped to useful employment through developing a sensitive constructive intelligence. (6)

This is such an extraordinary statement that it is difficult to know where to begin with it. Surely de Sausmarez must recognise that a young immature student does not need to have his "non-basic" attempts tacitly rejected for him to fail to produce works of art oriented in a different direction. When the whole course is geared to this one attitude, it would be a strong student indeed who could move on the opposite tack. Lack of encouragement is sufficiently close to tacit rejection to be quite as effective in stifling the groping tentative ideas of a sensitive young student. In addition one may doubt if there is any truth in de Sausmarez's statement that no "tacit rejection" takes place; experience suggests that a great deal of active condemnation of "humanist" and "graphic" art does go on.

The views de Sausmarez expresses about the student's imaginative capabilities have an old-fashioned air about them. Something of this same attitude is probably responsible for the dead hand of "basic course" exercises in some secondary schools; the argument is, no doubt, that since most of these children have no imagination, they would be much more usefully employed "developing a sensitive constructive intelligence" whatever that might be. A book has been published recently (7), which sets out specifically to suggest ways in which these basic course ideas might be used in the secondary modern or grammar school. The great dangers, of course, are of ossification and its accompanying sterility. There are indications in this book that it is going to be very difficult to avoid this danger.

An American professor of art education has written thus: "The general significance of the field of the visual arts resides in its essentially subjective and imaginative qualities, its attention to the inner life, and its everlasting concern with the characteristic nuances of human experiences" (8). While one cannot "teach" people to use or develop their imaginative powers in any very direct way, it is not only possible but essential, in schools and in art schools, that active encouragement should be given to work which stimulates the feeling

and imagining sides of a student's personality. In the case of art students it is probably more important to provide the right situation, the right atmosphere and physical environment, than to plan any series of tasks or assignments. It is difficult to put this into concrete terms, but there *are* ways, though leaving it to chance, as de Saumarez suggests, is not one of them. A system of small tutorial groups where a tutor can learn about and make use of the individual background of each student is very helpful, and can lead, both to the right suggestions about work to tackle at a particular moment, and also to that sympathetic atmosphere where highly personal identification in terms of paint or clay can take place. One must be prepared to see this opportunity sometimes misused and often not used to the best advantage; one must be prepared for the student who will spend months on one painting, and for the student who dashes off masterpiece after masterpiece in a style he has acquired on his most recent visit to a Bond Street gallery. In comparison with the university there has always been too much spoon-feeding at the art school. Students need time to find themselves, perhaps to lose themselves for a while. The work produced might not be examinable, but working in this way might well provide a real opportunity for a student's creative powers to grow.

In addition to this practical work, encouraged and supervised technically, though not directed, it would be necessary for a student to study something of the nature of creativity itself. Studies in perception and in the psychological basis of creative work, even at an elementary level, could form a similar basis for the art student as philological studies do for the student of English or modern languages. It has always seemed almost incredible that a student of English at a university need not engage in any creative work during his degree course, but it seems equally unrealistic that the art student should spend almost all his time on the production of art objects of one kind or another, and not at the same time study the processes by which man perceives the physical world around him, and the ways in which he thinks and feels his way towards artistic expression. There is no necessity for these studies to be isolated; much of the work described when discussing visual awareness could be linked with this more theoretical enquiry.

VI

It has been mentioned already that for different kinds of artists there are different modes of communication.

To some artists, particularly to the typographer and the graphic designer, the problems of communication must be in the forefront of their thinking at all times. In these fields quite detailed objective research has already revealed a great deal of information about the human reactions to scale, colour and shape, to sign and symbol, which can be studied in quite a formal way. At the Kunstgewerbeschule in Ulm, for example, studies of this kind form the most important part of the course, and this school has a big reputation for the quality of the advertising and typography students it has trained.

In the case of the product designer the problem is less tangible. The kind of things he wants to communicate do not lend themselves easily to such direct study. He may want to say that this tool or this machine is safe, efficient and reliable, or he may want to suggest, perhaps very subtly, that this object is in itself desirable, or that in addition to its functional values it has significance as a symbol of status. There are often conflicts here between the views of those who feel that there are canons of good taste which apply equally over a wide range of objects of applied art, and those who believe in planned obsolescence and in the virtues of design as an expression of ephemeral fancies and fantasies.

For the painter or sculptor the problem is very different indeed; what he has to say may be one thing to this generation, something quite different to the next. Present day attitudes to the painters of the Renaissance, for example, are quite different from those of a hundred years ago. There seems to be contained in the work of a great artist a variety of messages which will slowly be uncovered by the various interpretations of succeeding generations. For the artist himself it may be quite impossible to formulate what he is communicating—this he does only in the processes of painting his picture or carving his sculpture. His communication is with the object he is making; his tools and materials are the means by which he communicates his ideas to himself. A continuous circular movement is created, from the artist through his tools and materials to the object, and through his eyes and hands back to the artist again. This kind of communication is really another way of describing the act of creation which we have already discussed. Once again one finds that it is not possible to separate these compartments too strictly; the problems of communication touch on and make use of general theories of psychology, of perception and of learning.

This would seem to be an area where the requirements common to all kinds of artists are few and strictly limited, but it would still be

advantageous to isolate, at least temporarily, the more obvious features of visual communication between human beings, to study these in as concrete a way as possible, and then to relate them to the parallel studies in perception and the psychology of creativity. This study would not, of course, be entirely a theoretical one; much of this kind of work can be done in the form of drawings and paintings, and making these would enlarge the student's experience in handling different tools, materials and methods, and give him useful practice in skills and techniques which he might later use to more personal ends. It needs emphasising once again that such practical work at this stage should be as objective as it is possible to make it; all the fascinating "artistic qualities" which the trained artist would inevitably recognise in these productions ought to be deliberately ignored—the emphasis would be on study and understanding so that no possibility of stylistic imposition could occur.

VII

One of the most difficult problems in getting jobs for ex-art students has been the feeling on the part of prospective employers that the art student is an individualist, not accustomed to working as a member of a team and not likely to adjust himself easily to the requirements of group working. There is some truth in this, and art students training to be teachers find that in schools, too, only as members of a team will they be able to do their jobs efficiently. It is not surprising that these difficulties arise, for, from the moment a student enters the art school, attention is concentrated, not on his development as a person with an understanding of the fundamental disciplines which surround the processes of artistic creation, but on his development as an artist, as a producer of uniquely inspired art objects, and almost all the teaching takes place through and around these objects.

The student is asked to concentrate on himself as a producer; his development takes place in and through the objects he produces. He is not encouraged to express his feelings and ideas about these objects in words—his critical faculties operate only in the processes of painting or sculpting or designing. Cross-fertilisation of ideas does take place, of course, but on a limited scale. As for working with other people, the idea is a closed book to him. Even in the later stages of his grammar school education it is unlikely that the student will have had any opportunity or necessity to work as a member of a team.

This is something which should be remedied at an early stage in

an art student's career. One is not asking that he attempt to paint a mural or design a poster in association with other people, but many of the activities of his preliminary year, those described in discussing visual awareness in particular, could well be more successfully accomplished through group working. This would be particularly true of studies related to the student's physical environment. These studies can be arranged so that each student can gain experience in leading a small group, and in contributing something of value to different sized groups.

The necessity of group work of this kind is one of the main reasons why it is going to be very difficult indeed for any grammar school to run a worthwhile pre-diploma course. The interaction of quite a large number of students, perhaps a minimum of twenty to thirty, would seem to be a necessary condition for much of the most useful work in a preliminary year.

What has been suggested in the foregoing sections would necessitate a rather different kind of art school than any that exists at the moment. Art education would have to be looked upon sincerely as a liberal education and not as something tied to a narrow insistence on the art product. There is room in this country for very different art schools; perhaps the most worrying thing about this problem of the preliminary year is the uniformity that seems to be developing in art schools throughout the country.

Some universities have suggested how different approaches might work. There are honours courses in Fine Art at some British universities already, sometimes in association with an art school, sometimes not. A degree in Fine Art at one of these universities may mean something very different from a degree at another: it may indicate in one case little more than does the possession of a college diploma, in another the equivalent of both a college diploma and an ordinary arts degree; in yet another it may indicate much study of the history of art and the criticism of art with little practical experience. Is there any reason why art college courses should not develop with as much independence of spirit now that they are freed from the requirements of the Ministry of Education's National Diploma examinations?

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PHYSICAL EDUCATION AND CHARACTER

by J. A. MARAJ

Education Department, University of Birmingham

IT has been claimed by several people both within the ranks of physical education and outside of it that one of the chief benefits to be derived from this subject is the development of character. This view has been expressed in various ways, some more plitudinous than others, and it has probably accounted for a measure of recognition which physical education has so far won (1). People believed that it served this worthwhile purpose at least. Historically it was team games which were first believed to be capable of building character and gradually every other form of sport struggling for recognition climbed on the character "band waggon". The claims advanced by a multitude of people for numerous diversified physical activities in this respect are too well known to warrant further mention. Perhaps the typical belief is best summarised in the Syllabuses of Physical Training published by the Board of Education (2). Here it is reported that physical exercises if rightly conducted, also have the effect, no less important, of developing in the children, a cheerful and joyous spirit, together with the qualities of alertness, decision, concentration, initiative, endurance, determination, etc. The British Empire itself is alleged to have been built on team games and, especially in England, this implied benefit of games playing and similar activities was apparently the justification for these pursuits rising from a position of merely being tolerated to one in which they were actively encouraged.

We tend to accept too much for granted and the opinions of those high in our esteem often unconsciously become part and parcel of our own thought processes. We do not often stop to think or to analyse these glib statements and gradually they become so entrenched that we base upon them much of our later beliefs and convictions. Let us try to analyse the part that physical education really plays in character development, obliterating from our minds, if we

can, the previous claims and suggestions, asking ourselves whether there was even enough evidence for an hypothesis to have been advanced. To do this properly, we must clearly define the terms.

We shall use the term physical education to mean all those active pursuits, indoor and outdoor, of a competitive or recreational nature, involving team or individual effort. Clearly gymnastics, athletics, mountaineering, dancing, soccer, and such diversified pursuits are all included. It is not so easy, however, to define exactly what was meant by character. In some cases the term personality was used and physical education was even claimed to have had some effect on temperament. The layman uses these terms interchangeably—a position which is quite untenable for the psychologist, in whose province they really belong. Let us see what the psychologists have to say. Even in their ranks, there has been considerable hesitation to state in categorical terms what these various concepts mean and psychologists have been even more wary in trying to establish the various determinants of each. Professor Eysenck, boldly ventures this definition: "Personality is the more or less stable and enduring organisation of a person's character, temperament, intellect and physique which determines his unique adjustment to the environment. Character denotes a person's more or less stable and enduring system of conative behaviour (i.e. will). Temperament his more or less stable and enduring system of affective behaviour (i.e. emotion). Intellect his more or less stable and enduring system of cognitive behaviour (i.e. intelligence), physique his more or less stable and enduring system of bodily configuration and neuro-endocrine endowment" (3).

This formidable definition stresses systematisation, structure and organisation as opposed to specificity of behaviour. It is a vast improvement on such psychological definitions as abound in the various psychology texts wherein personality is defined as the sum total of all the biological *innate* dispositions, impulses, tendencies, appetites and instincts and *acquired* dispositions and tendencies. This only introduces new terms whose particular meaning we shall find more difficult to disentangle. It is therefore proposed to use Eysenck's definition and to supplement it with Munn's version, which though implied by Eysenck is nevertheless more clearly stated by the latter. Munn claims that the term represents the unique integration of measurable characteristics and motivational undercurrents and is applied only to permanent or consistent aspects of a person. He insists that it is more than a mere summation

of measurable aspects—it is an integration, a blend, a merger, an organised whole—and he concludes that although the principles underlying development of your personality and mine are probably similar, the end product is different.

Now where has all of this got us? Let us look back—we know that character and temperament are only parts of personality. We see that the one has to do with volition, the other with feeling or emotion. We see that personality isn't a "sum total of" but rather an integration of these measurable aspects—we see that it is stable and enduring, not prone to great changes from one situation to another. Above all, it is unique.

Because the psychologists interpret character in a way different from that used by those who claimed that its development is promoted by physical education, it will be wise at this stage to note what their concept is. The degree to which one's behaviour conforms to what other people regard as moral or good is the psychological basis for speaking of one's character. It is, in a way, personality viewed from the standpoint of the ethical or moral. It is what the layman has in mind when he speaks of a "good" character. But I believe that the protagonists of physical education did not mean this when they claimed that character was developed. What they meant were enduring "characteristics" of social and of "ethical" significance, i.e. those attributes which the layman would say made you—a "strong" character. Longland even goes further and states "Moral behaviour is to some extent a matter of conventions which a man of strong character may deliberately decide to disregard" (4). In psychology these attributes are termed, variously, characteristics, character traits, or personality traits. It is the unique integration of these that finally determines the true personality. But how are they established? How are they formed? How are they integrated? These are the questions we must now try to answer.

The development of personality cannot be studied without reference to the social interactions which we experience even from very early in life. In our relations with our parents, neighbourhood, community, church, peer group, school, we are constantly being stimulated and responding. This stimulation and response is influenced by innumerable factors such as permissiveness or authoritarian attitude of parents, acceptance or rejection by others, to mention just a few, and as a means of adjustment to these different phases of our environment, we adopt certain modes of behaviour. If, for example, you are calm in situations of stress, but happen to blow up

once in a while, the calmness rather than the irritability would be regarded as characteristic of you. It is the stable, consistent behaviour pattern which is identified as a personality or character trait. These traits are only indirectly observable and psychologists speak of dominance, persistence, sociability, selfishness, etc. It is important to remember that these must be consistently observed and should not be specific habits but that rather some measure of generality should be seen. Traits, however, are not directly observable, they are inferred from behavioural responses. It is the repeated response to similar stimulation that leads to the postulation of a certain trait. From identification of traits, let us move on to the next rung of the ladder in personality development, the type. This is the focal point of frequently occurring groups of characteristics or traits. We are now at the stage where the layman describes people as dandy, intellectual, quiet, sporty, etc. A type is a group of correlated traits just as a trait was a group of correlated behavioural acts or action tendencies.

In fact, personality development is believed to take place on four levels of behaviour organisation. At the lowest level, we have specific responses given to various forms of stimulation. At the second level we have habitual responses. These are specific responses which tend to recur under similar circumstances. Incidentally, learning theory postulates that this repetition of a situation leads to consistent behaviour. On the third level we have the organisation of habitual acts into traits. Such traits as persistence are theoretical constructs based on observed inter-correlation of a number of habitual responses. At the fourth level we have the organisation of traits into a general type, e.g. introvert. This last construct really implies a constellation of traits inter-correlating among themselves resulting in a "type". This model of personality or "character" development is based on writings of Jung, Kretschmer, Allport and Eysenck and the concept of type assumes that some integration has taken place so that the person's behaviour is consistent and largely predictable. There is a certain dependability or stability of conduct and if integration has not taken place, the individual, still at the mercy of separate traits perhaps pulling him in different directions, is likely to be inconsistent, undependable, unpredictable, and even contradictory. Thus, then, does the development of personality or, for our purpose, "character", proceed and we must now turn to a consideration of how physical education can aid in its evolution.

In sport, as in much else in our lives, we are constantly being

stimulated by others in the environment, and by the environment itself, and we respond to them. These responses lead to habits, traits and so on. In this sense, sport along with all our other activities provides, as it were, the opportunities for us to develop habitual modes of conduct. Does it, though, provide unique opportunities? I would contend that it does. The kind of co-operation required in team games, the behaviour patterns evoked in outward bound pursuits etc., may not be completely absent from our lives, but surely prolific opportunities are afforded these qualities to develop in sport. And if we accept that the likelihood of reacting consistently in a given way is a function of one's drive and habit strength, then surely the more the opportunities, the greater the likelihood of the habit strength increasing. Such qualities as unselfishness, initiative, courage, resourcefulness, may be developed but we must realise that all that is happening is that opportunities are there for their development. One might argue that there are also the opportunities for the reverse of these to develop—equal opportunities perhaps. This may be so but due to the system of laws and rules and, perhaps more important, *social* approval, social recognition and acceptance, it is more likely that desirable qualities will arise and that these will be reinforced. In other words, it is more likely that desirable habits will be strengthened. It can hardly be disputed that the opportunities for social training, in this sense, are great, but at most they are only opportunities and do not guarantee development of any attributes desirable or otherwise. Randall puts it thus: "Participation in physical education must result in impressions being made upon character as well as upon the body but it is naive to expect the inculcation of certain qualities to accompany practice of specific activities" (1).

There are not as many situations in everyday life which provide either the kind of opportunities or the number of them for evoking the qualities which are considered desirable, as are provided by sport. It must be remembered, however, that we cannot train such qualities as resolution, initiative self reliance, either in sport or out of it. The old faculty theory of compartments in the mind, one for this and one for that, has long been dispelled. The direct training of specific qualities such as courage is also out of the question. The most we can do is to establish these qualities as worthwhile ideals, to try to foster desirable attitudes towards them, and hope that by providing unlimited opportunities they will evolve. Physical education covering as wide a range of activities as it does certainly provides scope for the development of these attitudes and for expression of the worth-

while characteristics which it should never fail to reinforce. We must not deceive ourselves into believing that all the opportunities afforded in sport will lead to an expression of a desirable quality. Football might provide the opportunity to think quickly and size up the situation, but it also provides opportunity for hostility. We can only hope that that which was presented as a worthy ideal will triumph. In establishing some things as ideals, in trying to influence the sense of values, we must also be careful that we do not make their attainment desirable "at all costs". The by-products of this can themselves be most undesirable. Randall is convinced that "such qualities as fair play, for example, can only result from an attitude of mind which has developed through a conscious acceptance of an ideal and is revealed by action not lip service".

Just as we cannot guarantee that certain qualities will inevitably develop from continued participation in an activity, so too we cannot guarantee that if it develops it will necessarily be transferred to other aspects of life. Altham refers to the beauty of forcing one's heart and nerve and sinew to hold on long after they are "spent" and concludes, "If he learns to do that on the running track, in the ring, on the river or in the swimming bath, he *may* well command the self same mastery on issues fought over a wider and perhaps less physical field" (5). This is indeed super optimism, admittedly he *may* but just as well he might not. Too much reliance has been placed on transference. Once again an unhappy legacy from faculty psychology had led people to believe that behaviour in one social situation was necessarily carried over to another. The fallacy of this, too, has been exploded and the principles governing transfer reveal a much greater degree of specificity than had been thought. Briefly, modern belief is that the amount of transfer depends on the similarity of the situations, is proportional to the amount of similarity and is certainly not automatic. For transfer to take place, similarities must be recognised and their presence appreciated. The mental attitude is extremely important. Ruediger's investigation into neatness revealed that there was no transfer until the children were convinced that neatness was something worthwhile—an ideal they believed and one they appreciated could be applied with benefit to a variety of different situations. McIntosh claims that transfer of training may take place through the agency of emotional attitudes, sentiments and ideals, i.e. interest and belief in the worthwhileness of what is being done. This may play a part in carrying over some patterns of behaviour. This, in the writer's opinion, is the way in which qualities which emerge while participat-

ing in sport may generalise to everyday life, but we must certainly not hope for too much.

Can the different types of activities make different contributions? In so far as they provide different types of opportunities, yes. In individual sports, the element of co-operation which characterises team games is absent, but the opportunities are such that initiative, determination, concentration etc., might be developed and these are no less important. The challenges of mountaineering, canoeing, sailing and other outdoor pursuits, provide still different kinds of opportunities for the expression of selflessness, adventurousness, resourcefulness, courage and perseverance, qualities which are fast disappearing in the welfare state. Such pursuits as dance permit not only expressive movement but equip one with social skills which are likely to be revealed in the confidence with which one behaves in situations where this is an inestimable asset. In folk dancing, the active participation may give one the sense of co-operation which is perhaps akin to that experienced in team games, but which practised in a different situation is likely to reinforce the attribute of co-operation itself. It cannot be overemphasised that the more the opportunities, the more likely the emergence of the habits desired. Although the various types of activities may provide greater scope for the revelation of particular qualities with some overlapping, each kind of activity nevertheless can contribute to the fostering of essential qualities which are vital to the well rounded personality.

It has been proved that unlearning is more difficult than learning and that habits acquired early tend to persist. From this point of view, it would seem that it would be advantageous to do all we can in childhood and youth to foster such qualities as we would like to see in adult life. In this way, it becomes apparent that the way people are influenced by their environment early in life may have far reaching effects in the development of personality or "character". Psychologists claim that the early years are most important because they come first and this statement, though simple, is nevertheless profound. We cannot hope to suddenly alter in adult life, behavioral responses, traits, etc., which are fully embedded in an individual's repertoire. We can effect some alterations but surely the task is infinitely more difficult and may even lead to a complete breakdown if too drastic changes are attempted. In personality development, the opportunity provided through sport, which begins in childhood, does hold some sway and as long as the individuals are at the stage where they can "perceive" ideals we must establish these as worthy.

Integration is hypothetically incomplete in childhood and progresses as the child advances, but the building blocks to be integrated are emerging and we must ensure that their quality is good.

If the adult has not only to change his blocks but to cement them, personality development can be seriously affected. Inasmuch as physical activities are naturally attractive to the young we are working along the grain and the opportunities they provide for social development are indeed numerous.

Previously, in an effort to be accepted by the comparatively restricted élite, one behaved in a certain way. There is the tendency for those striving towards upper social mobility to imitate the actions of the group they aspire to and so, some people participated in the activities which were indulged in by that group. Sport provided a practical possibility. To be a gentleman one played cricket or tennis and in doing so the social interaction undoubtedly influenced personality development. To-day social stratification is much less clearly defined but certain physical activities still permit people to meet and compete with others in different strata. The resulting interaction must influence development of their respective personalities.

Especially noticeable in the emancipation of women has been the disappearance of the feminine character with its overtones of the weaker sex. Due to their much greater participation, women are now exposed to much the same stimulation, they are provided with much the same opportunities for taking part, competing etc., and qualities which were at one time believed to be possessed only by men, are evident in women's endeavours. They are no less courageous, resourceful, adventurous. The opportunities afforded them in sport exceeded and antedated those which came their way in other fields, and they revealed the self-same characteristics of their male counterparts.

Of course, physical education is not the only thing that helps to promote personality development. It helps along with a vast array of other social and environmental stimulation. It cannot be proved to be directly responsible but, as has been stated, by widening the scope, and increasing the opportunities, it has made more frequent demands on the expression of worthwhile attributes. The advocates of physical education have been guilty throughout history of overstating their case whether it is for character development or therapeutic effect, and misconceptions have been many. Sometimes people are admired for their outstanding prowess, and because they are accomplished performers we claim that their character has been strong.

Longland rightly states that "ability to play well shows nothing except certain skills of co-ordination of mind and muscle". The character training value of games must be approached with extreme caution; and too great disappointment must not be felt if some of those whose skill we admire fall short of our social expectations. Here is the type of naive question posed by Longland, and often asked by others: Did Sir Edmund Hillary get to Everest because of his indomitable character or did he develop the character because of mountaineering? This can only be answered by saying that the worthy gentleman's personality became so integrated as a result of his numerous environmental stimulations and reactions, not the least of which included mountaineering, that the dominant characteristics of perseverance, courage, fortitude etc., led him, indeed drove him, to his unparalleled achievement.

If any specific claim can be made for physical education in respect of personality development it would have to be along the lines advanced by Professor Duras, who states that feelings of fear were linked with epinephrine controlled reaction of the cardiovascular system and that this in primitive life enabled us to survive (6). He hypothesises that nowadays, when physical education is not performed, these fear-linked preparatory arrangements produce frustration. This leads to tension and may be manifested as anger, anxiety, feelings of insecurity, etc. Clearly these affect personality development abnormally and if Duras is right, physical education has a definite and specific contribution to make. However, too little is known about the endocrinological factors to make so categorical a claim. The writer prefers to think that opportunities are provided by physical education for becoming acquainted with our functional possibilities, for developing feelings of belonging, of security and of achievement—feelings which would be reflected in stable personalities.

One cannot proceed too carefully in considering the claims made. In very rhetorical language, in every part of the globe, people are acclaimed for subordinating their natural inclinations and style in the interest of the team. It is even said that in doing so they lose some chance of personal distinction. With all the praise lavished on this sort of behaviour, is it not possible that people who behave in this way do not really sacrifice their style because of their team spirit, but because they seek the glory usually attributed to such behaviour? Could not this be the motive, rather than the nobler and loftier ones so often alleged to be the driving force? Which of these is a reflection

of his true personality? Can one ever really know? Although we tend to judge from overt behaviour patterns, it is the deep underlying integration which really is personality.

The "cock of the walk" attitude adopted by some successful athletes has led people to claim that this sort of personality trait, produced through physical education, is an undesirable by-product. We cannot admit that it was produced solely by physical education, though we may agree that physical success makes it dominant. By offering a wide range of differing activities, however, this "lionisation" can be eradicated. The accomplished cricketer, who cannot swim a length of the bath to save his life nor dance enough to save himself social embarrassment, is not much of a rooster in life's farmyard!

Not only does participation play its part, but spectatorism as well. Too frenzied a partisan spirit may reflect undue loyalty, lack of perspective and inability to appreciate what is good in others. The spectators who throw bottles on to a cricket field in the West Indies are revealing as much of their character as is the batsman who is defending doggedly to save his side. On the one hand, their loyalty is misdirected and blind, on the other his is purposive and admirable. And yet, we cannot aim directly at character training: it must come as a by-product. Physical education certainly helps to bring out latent qualities. This is the most we can hope for, leaving it entirely to the future as to whether they are used for sensible purposes.

While believing that the development of desirable qualities is specific, it seems reasonable to assume that personality and character are coloured through their constant practice and expression and obviously chances of generalisation would be heightened if this occurs in as wide a field of different situations as possible. Physical Education provides many of these situations and so lends itself readily to influencing personality development. Let us beware though of expecting carry-over into everyday life as so many have done. Noyce refers to C. E. Montague's statement, "No man can be wholly mean on a mountain top", and adds, quite rightly, that it seems he can become wholly mean once he returns from his exceptionally severe climb. This is indeed so, but alas Noyce himself, subject no doubt to the long years of blind belief in character training and given to flights of rhetorical language, tells us later of mountaineering "If only we can teach humility as well as a sense of perspective, we shall have taught something that will really stick. This is likely to last a good deal longer than the memory of any path we trace upon

their sides" (7). I do not recognise any particular adhesiveness in humility and must disagree, maintaining as before that all we can do is to present worthwhile ideals, unlimited opportunities for their development, and hope that the end product is worthy. Physical education, providing as it does countless opportunities and being of natural interest to most people, must play a vital part in character development. In a field where frequent and consistent demands are made on honesty, loyalty, courage, perseverance, etc., and where social approval recognises these qualities, its role must be tremendous. After all, the aspect of personality which predominates is always the social one. Whatever our personalities may be in cold, abstract and scientific terms, to others it means our social selves, the role we play in social situations. Physical education demands certain behaviour patterns from us in the social situations which it creates and so helps to mould the building blocks of which our personalities are finally formed. It may not contribute to their integration. Who knows? Who can tell how integration takes place—for it is this that is unique? But it undoubtedly helps to make the blocks themselves of such a quality as is bound to be evident in the final you or me.

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SOME MORAL ATTITUDES OF BOYS IN A SECONDARY MODERN SCHOOL

by J. B. EDWARDS

Educational Psychologist, North Wales

PART I

I. INTRODUCTION

BELIEVING it important to know what children think about ideal persons, moral wickedness and certain moral incidents, a series of tests was used to ascertain the attitudes of secondary modern schoolboys at a school in the Midlands to these aspects of moral development. These tests were included in a detailed study of the moral attitudes of the boys during their stay at the school from eleven to when they left at fifteen (2). Similar tests have since been given to junior school children during their final year in the school (19). No attempt was made to measure moral behaviour. The difficulties in doing this have been clearly shown in Hartshorne and May's comprehensive study from 1928 to 1930 (7).

Piaget (18) on the other hand, decided to investigate the moral judgment of children near Geneva; he thought "the child must often be faced not only with concrete actions but also with accounts and verbal appraisals of actions. It is therefore important to know what is his attitude in such circumstances." He devised various incidents which presented a moral problem and invited the views of the children examined to these situations. Two studies inviting children's opinions on "Ideal persons" are those of Macaulay and Watkins (15), who received over 2,400 replies in their 1925 inquiry, and, more recently, Bray (1) who studied essays of eleven-year-olds on an admired person. In Macaulay and Watkins' study the children were also asked to give their attitudes to morally wicked things.

2. BACKGROUND AND TESTS USED

The full sample consisted of 234 boys in a secondary modern school, 102 aged eleven and 132 aged between fourteen and fifteen years. These two groups comprised the first and last years at the

school. This school was situated in an industrial area in the West Midlands. Surrounding the school was a municipal housing estate which had grown rapidly since it was first developed about 1930. The majority of the pupils take up work in the various local industries.

Three tests were used, namely: (1) the "Ideal Person" test, in which the child was asked to name the person he would most wish to be like and to give reasons for his choice; (2) the "Moral Wickedness" test, where the child was invited to describe what he considered to be the most "wicked" deeds or actions; and (3) the "Moral Incidents" test, where a series of six hypothetical situations concerned with honesty, loyalty, responsibility and punishment, were presented and the child was asked to indicate with which of three alternative methods of dealing with the situation he agreed most. The first two tests are similar to those used in the same area by Macaulay and Watkins (15) in 1926. Some incidents in test three are similar in type to those used by Piaget (18). The actual incidents used are given in the next section, together with the children's replies.

The children were told that the investigation aimed at finding out their opinions on these questions and that there were no right or wrong answers. Furthermore, they were told that these tests were not timed, so that they could work at their own speed; and that spelling did not matter and that they could ask how to spell any word they did not know. Backward forms were given particular attention, and the "Moral Incidents" test was done slowly with these forms to help the poorer readers, although those who could manage were allowed to carry on by themselves. It was emphasised that anyone could be named as the "ideal person" and that they could give as many reasons as they could think of for their choice; also that the list of wicked deeds could be as long as each child wished to make it.

3. RESULTS

(a) *The "Ideal Person" Test*

As can be seen from Table I, figures from "Radio, Television and Films" were most frequently named, followed by figures from the world of Sport. However, for the eleven-year-old group the order of these two categories was reversed, as personalities from sport were here most popular. For the older group of boys, out of one form of mainly backward boys, twenty-one in number, eighteen named persons from television or films.

Other qualitative differences which were interesting were the

individual persons most named by the respective groups. The figures most frequently given by the younger boys were (in that order): R. Allen (a local footballer), Tommy Steele, D. Kevan and Stanley Matthews. Most frequently named by older boys were the following: Elvis Presley, Tommy Steele, Stanley Matthews, and Pat Boone.

Seven boys, six in the older group, named themselves, and fourteen boys named persons from their immediate circle of family and friends. Only six boys named persons of a religious or moral nature, and three named members of a royal family. Female figures were named by three boys.

TABLE I
"IDEAL PERSON" TEST

Category	Total N = 234		11-year-old group N = 102		14-15-year-old group N = 132	
	N	%	N	%	N	%
Radio, T.V., films	90	38.5	34	33.3	56	42.4
Sport	77	32.9	40	39.2	37	28.05
Immediate circle	14	5.9	6	5.9	8	6.00
War figure	13	5.5	6	5.9	7	5.25
Science	7	2.9	4	3.9	3	2.25
Books: authors and characters	7	2.9	4	3.9	3	2.25
Self	7	2.9	1	0.98	6	4.50
Religious/Moral	6	2.4	3	2.95	3	2.25
History	5	2.0	3	2.95	2	1.50
Royalty	3	1.2	1	0.98	2	1.50
Travel	2	.8			2	1.50
Politics	1	.4			1	.75
Rich person	1	.4			1	.75
Naval person	1	.4			1	.75

Reasons for choosing the "Ideal Person"

Every boy was asked to give at least one reason for his choice, but many gave more than one reason. On the other hand, some duller boys gave no reasons at all after writing down their "ideal person". The reasons given have been placed into the categories as shown in Table II.

The reason most frequently given by the boys was that of good, in the sense of being efficient. Good, in the more moral sense of being kind, helpful and upright, came sixth in the list of categories. One

difference between 11-year-old and 14- and 15-year-old boys was that older boys placed "Wealthy" above "Physical attributes" and "Famous" as reasons, whereas younger boys reversed these categories.

TABLE II

REASONS FOR CHOOSING "IDEAL PERSON"

Reasons	Total N = 234		11-year-old group N = 102		14-15-year-old group N = 132	
	N	%	N	%	N	%
Good (as efficient)	133	39.9	64	45.0	69	36.5
Famous	46	13.8	20	14.0	26	13.7
Wealthy	44	13.2	11	7.7	33	17.4
Physical attributes	34	10.2	15	10.5	19	10.1
Brave	19	5.7	8	5.6	11	5.7
Good (as kind)	18	5.4	8	5.6	10	5.2
Adventure	17	5.1	7	4.9	10	5.2
Power	9	2.7	6	4.2	3	1.5
Knowledge	4	1.2	1	0.7	3	1.5
Inventor/scientist	3	.9	1	0.7	2	1.0
Humour	3	.9	1	0.7	2	1.0
Seems happy	1	.3			1	0.5
Total no. of reasons	331		142		189	

* Both the numbers and the percentages refer to reasons and not to children.

Some examples will show the type and range of answers which were received. Boy, aged eleven (form 1A) choosing John Wayne as his "ideal person" wrote: "I would like to be John Wayne because (a) he is a good actor, (b) he is the star in many films, (c) in his films he plays very well, (d) he acts very well indeed, (e) he speaks very clearly." Boy, aged eleven (form 1B) wrote: "Stanley Matthews, as he is famous." Boy, aged fourteen (form 4C) gave Tommy Steele as his "ideal person": "He has a nice face and has a smashing hair cut." Boy, aged fourteen (form 4A) chose himself, because "I don't want to be anybody else because I have never seen anybody I would like to be." Boy, aged fourteen (form 4A) named Douglas Bader: "He was a great wartime pilot; brave, courageous, used to being a prisoner of war. He had no legs and pulled through from a serious operation. He risked his life for our country hundreds of times." Boy, aged eleven (form 1A) wrote: Dr Livingstone: "He had courage and would not let anything turn him back, also because he brought peace and God to some tribes of savages."

(b) The "Moral Wickedness" Test

The replies received are shown classified in Table III. Both younger and older boys agreed on the main types of "wicked actions". Younger boys did not list "perjury" and older boys "lying" and "spitting"; and younger boys thought "swearing" more wicked than older boys.

The eleven-year-old group usually gave particular offences and rarely mentioned general offences, except "murder" and "stealing". Degrees of wickedness were often overlooked, for example, one boy wrote: "Spit, murder, bank robber, Teddy boy chain, Hold-up, kick." Other replies were "Bully little kids" (this was not mentioned by older boys); "to punch a new born baby for crying"; and "kill people by pulling their arms apart slowly, and the death of a thousand ants—put jam on them and leave them to the ants."

Fourteen- to fifteen-year-old boys were able to give offences of a more general nature, but some duller older boys still tended to muddle serious and trivial offences, and list fewer offences, for example,

TABLE III
"MORALLY WICKED ACTIONS"

<i>Type of action</i>	<i>Total</i> <i>N</i> = 234		<i>11-year-old</i> <i>group</i> <i>N</i> = 102		<i>14-15-year-old</i> <i>group</i> <i>N</i> = 132	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Murder	192	32.8	78	32	114	33
Torture, Physical cruelty	108	18.4	47	19	61	18
Steal, rob	89	15.2	36	15	53	16
Cruel to animals	66	11.2	33	13	33	9.7
Blackmail	44	7.5	12	5	32	9.4
H bomb War	17	2.9	7	2.9	10	3
Sabotage	15	2.5	5	2.0	10	3
Fraud, forgery	11	1.8	5	2.0	6	1.8
Swear	11	1.8	8	3.3	3	.9
Lie	6	1.02	6	2.5		
Traitor	6	1.02	1	.4	5	1.5
Bigamy	6	1.02	2	.8	4	1.2
Perjury	4	.68			4	1.2
Break a promise	3	.51	1	.4	2	.6
Spit	3	.51	3	1.25		
Blasphemy	3	.51			3	.9
Foul in Football	1	.17	1	.4		
Total no.	585		245		340	

"pinching, killing, swearing, fighting, being rude, cheeking men or women", and "to kill Tommy Steele". However, other older boys wrote: "Blackmail, murder, stealing, smuggling, sabotage, forgery, bigamy, perjury," and "war, murder, stealing, hanging, crucifixion, burning people, sabotage, firing squad, whipping, slaves." Older boys mentioned too "smoking is dangerous to anyone under age"; and corporal punishment (i.e. "wrong for teachers to cane us").

Two examples on cruelty were, first against cruelty to animals, Boy 14: "Hang a cat by its tail when it's having kittens, throw a cat in the river, shoot birds, poison dogs, and let hounds chase deer and rabbits," and, secondly, cruelty against people, Boy 15: "to take it out of anyone who is handicapped, and to coloured people amongst white people for the first time who are jeered at and booed." Only some boys in the older group mentioned such offences as "saying nasty things about Christ" and "say things against Christ".

(c) *The "Moral Incidents" Test*

This test was devised to ascertain the attitudes of the two groups of eleven- and fourteen-to-fifteen-year-old boys to six hypothetical incidents. In these incidents a moral conflict was presented and the boys were invited to endorse one of the three alternative statements given at the end of each incident. All boys were allowed to work at their own pace. This "forced-choice" type of test was chosen partly because interpretation and comparison are more easily made than in "open ended" tests, and partly in contrast to the two previous tests which were less restrictive.

Two of the incidents (Nos. 1 and 5) were similar to those previously used by Piaget (18). Piaget believed that older children take extenuating circumstances more into account than younger ones. Younger children would be more engrossed by the actual consequences of an action, for example the number of glass jars broken.

For the purpose of discussing the results, these six incidents have been grouped into four themes, namely, honesty, loyalty and responsibility, and punishment. The order in which they were actually given is indicated by the number allocated to each incident. The boys were asked to underline whichever one of the three alternative replies seemed in their opinion to be the best, most just, or sensible way of meeting the conflicting situations in question. It was emphasised that there were no right or wrong answers.

The two incidents, dealing with problems of honesty, read as follows:

Incident No. 4

George and his mother were watching a play on television. In this play, there was a boy whose family were very poor and this family could not buy chocolates for their little girl who was very ill. So the boy took three bars of chocolate from a shop, and gave them to the little girl.

A man on the television said the boy had done wrong; but George's mother said the boy could be excused.

Do you think:

- (1) The boy should have taken the chocolates?
- (2) The boy should not have taken the chocolates?
- (3) The boy could be excused?

Incident No. 6

Paul saw his mother out one Saturday morning collecting for the Blind Society. His mother brought the box home, opened it, and put the money in a drawer until she handed it over. After dinner Paul wanted some money to go to a football match but there was no one in the house at the time. So he took what money he needed from the drawer.

Do you think:

- (1) Paul should have taken the money?
- (2) Paul should not have taken the money?
- (3) Paul should have waited for advice?

The replies to these two incidents are shown in Table IV. In the case of Incident 6, more than three-quarters of the boys were against taking the money, although more younger boys thought further advice was needed than older boys. In Incident 4, on the other hand, opinion was more evenly divided between the boy not taking chocolates and being excused. More younger boys believed the boy should have taken the chocolates and that he could be excused.

The two incidents concerned with loyalty and responsibility read as follows:

Incident No. 2

Bob is saving up to go to see a schoolboy international match at Wembley with the school. His friend, Dick, asks him one Saturday to go to the pictures. This would mean that Bob would have to spend some of his savings. So Bob said he would stay at home.

Do you think:

- (1) Bob should have gone to the pictures?
- (2) Bob should have stayed at home?
- (3) Bob should have asked for advice?

Incident No. 3

Jack was one of the best players in the school football team. One Friday evening the team had an important game to play, and needed their best team to win. Jack went home to see a programme on the television. He did not worry how the school did in the match.

Do you think:

- (1) Jack should have played for the school?
- (2) Jack should have gone home?
- (3) Jack should have asked for advice?

The replies given to these two incidents are seen in Table V. The overwhelming majority of boys thought, in Incident 3, that the boy should play for his school. However, in Incident 2, opinion amongst all the boys was more evenly divided between the boy staying at home and asking for advice. Many more younger boys thought the boy concerned should have asked for advice.

The last two incidents, concerned with punishment, read as follows:

Incident No. 1

The art master in a school warned Tom not to run wildly into the art room. Tom forgot, ran in wildly and knocked a glass jar holding water on to the floor, and broke it. Bill, walking into the room later, accidentally slipped and knocked twenty glass jars on to the floor, and broke them:

Do you think the art master should:

- (1) Blame Tom most?
- (2) Blame Bill most?
- (3) Blame both boys the same?

Incident No. 5

Stanley was a new boy in the class. In a test he saw other boys cheating, so he cheated and copied down many answers. One boy Peter had been warned by the teacher before for cheating in a test,

and he was only copying one answer, when the teacher caught him. Later the teacher noticed that Stanley had cheated too.

Do you think the teacher should:

- (1) Blame Stanley most?
- (2) Blame Peter most?
- (3) Blame both boys the same?

The replies to these two incidents are shown in Table VI. Nearly three-quarters of the boys thought Tom should be blamed most in Incident 1, but opinion was less clear-cut in Incident 5. Here just over half the boys thought both boys in the incident should be blamed the same. Between the two groups of boys, more older boys thought both boys should be blamed the same, and more younger boys both that Stanley and Peter should be blamed most.

TABLE IV
REPLIES TO INCIDENTS CONCERNED WITH HONESTY

	Total		11-year-old		14-15-year-old	
	N = 234		group		group	
	N	%	N	%	N	%
<i>Incident 4</i>						
Should take chocs	20	8.5	14	14	6	5
Should not take chocs	105	44.8	36	35	69	52
Can be excused	109	46.7	52	51	57	43
<i>Incident 6</i>						
Paul should take money	1	.4	0	0	1	1
Paul not take money	183	78.3	76	75	107	81
Paul ask advice	50	21.3	26	25	24	18

TABLE V

REPLIES TO INCIDENTS CONCERNED WITH LOYALTY AND RESPONSIBILITY

	Total		11-year-old		14-15-year-old	
	N = 234		group		group	
	N	%	N	%	N	%
<i>Incident 2</i>						
Bob should go pictures	2	.8	1	1	1	1
Bob stay home	135	57.8	49	48	86	65
Bob ask advice	97	41.4	52	51	45	34
<i>Incident 3</i>						
Jack play for school	222	95.1	99	97	123	93
Jack go home	5	2.0			5	4
Jack ask advice	7	2.9	3	3	4	3

TABLE VI

REPLIES TO INCIDENTS CONCERNED WITH PUNISHMENT

	<i>Total</i>		<i>11-year-old group</i>		<i>14-15-year-old group</i>	
	<i>N=234</i>		<i>N=102</i>		<i>N=132</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
<i>Incident 1</i>						
Blame Tom most	168	71.9	74	73	94	71
Blame Bill most	10	4.2	6	6	4	3
Blame both same	56	23.9	22	21	34	26
<i>Incident 5</i>						
Blame Stanley most	31	13.2	17	17	14	11
Blame Peter most	80	34.1	38	37	42	33
Blame both same	123	52.7	47	46	76	56

4. DISCUSSION AND CONCLUSIONS

An overwhelming majority of boys in the secondary modern school studied chose as their "ideal person" characters not in their immediate circle of family and friends. Figures from basically two spheres of activity, namely, the entertainment and sporting worlds predominated. These findings are similar to those of Bray's (1) and Pringle and Edwards' (19) with junior school children. For example, in Bray's sample of ten- to eleven-year-old children, 83% of boys and 79% of girls chose "remote", i.e. personally unknown, admired persons. In Macaulay and Watkins' (15) earlier investigation, on the other hand, the largest groups named were persons from the child's immediate family or friends. Thus the growth in the influence of television, films and sport is marked.

Very few ideal persons mentioned were of a moral or religious nature and even when such were mentioned the reasons given were not moral or religious ones. Younger children, on the other hand, and especially younger girls mentioned such ideal persons more frequently. Furthermore, although a number, especially of the older boys in the secondary modern school, named themselves as an ideal person, none of the junior school children did so (19). It is possible that these older boys on entering adolescence were entering that stage described by Winnicott (21) as adolescent morality which has as its motto, "to thine own self to be true" and that the adolescent "is trying to find the self to be true to".

The most frequently mentioned reasons for the choice of an ideal person were good, in the sense of being concerned with efficiency, fame, and then wealth. This finding is similar to that of Macaulay

and Watkins. Junior school boys too gave "good", meaning "efficient", as their first reason, but their second and third reasons were "adventurousness" and "good", in the sense of "kind". It seems, therefore, that it is largely during adolescence that the material values of an affluent society exert a strong influence.

The main types of moral wickedness most frequently named were murder, physical cruelty, stealing and cruelty to animals. More intelligent older boys tended to give a list of more general crimes, e.g. arson, perjury, bigamy; while younger and less intelligent older boys often named individual instances of wickedness, such as "spit, bite, scratch". Basically, these confirm the earlier findings of Macaulay and Watkins, but fewer boys in the present study mentioned offences against religion and parents, and no evidence was obtained to support Macaulay and Watkins' belief that from nine to adolescence the child never expresses his own opinions and never criticises what society judges to be right or wrong. Corporal punishment was mentioned by the fourteen- to fifteen-year-old group, e.g. "for teachers to cane us". This compares with Hopkins' (10) statements in his article: "The attitude of the children towards punishment changes with age", and "corporal punishment should be administered only rarely to adolescents". Also Wheeler's (20) findings, on the attitudes of secondary boys in Australia towards punishment, that "the trend is for more of the older boys to express approval (i.e. to corporal punishment)" and "a number of the fifth year boys expressly stated that corporal punishment was not administered to them, now that they were seniors, but still said that they thought it right that it should be used in school".

Some interesting factors emerged from the "Moral incidents" test. To issues presented in a more direct and straightforward manner, such as loyalty to school (incident No. 3) or taking money without permission (incident No. 6), the overwhelming majority gave the expected reply. But when the issues were less clear-cut, opinion became more equally divided over various replies. Older boys, however, were less influenced by extenuating circumstances (in incidents No. 2 and 4). More younger than older boys expressed a wish to ask for further advice, and more than half of the eleven-year-old boys wanted to seek advice in incident No. 5.

The incidents (Nos. 1 and 5) similar to those devised by Piaget (18) sought to discover to what extent the boys were influenced by the actual consequences of an action. In both these incidents the issues were placed in a school setting. More younger than older boys

blamed the boy who had done most wrong, i.e. by the extent of the damage done or cheating. Yet more younger boys also thought the "more guilty" boy (from the point of view of intention or motive) should be blamed most in both incidents. More older boys therefore obviously believed that both boys should be blamed the same.

The emphasis on the same amount of blame for both boys (in the incidents Nos. 1 and 5) by the fourteen- to fifteen-year-old boys may indicate their loyalty to their group. Is the teacher, in both incidents, being confronted by a group of classmates? Gesell (4), for example, believes that a "concern for fairness" is important for the boy especially as he approaches the years from fourteen to fifteen. Could this "fairness" express itself in believing that both boys should be blamed the same amount? Winnicott (21) writes of this group solidarity: "In this way we sometimes see young adolescents attempting to form an aggregate through the adoption of mutual ideas and ideals. . . . It is as if they can become grouped on account of their mutual interests and concerns."

Though generally more older boys than younger boys took extenuating circumstances into account there is still evidence that many older boys, especially those in the lower fourth-year stream, found difficulty in thinking out the issues presented to them. This compares with the view of Goldman (5) who in his work on some aspects of religious thinking in adolescence found that severe limits to understanding were set by limited experience and mental maturation. Havighurst and Taba (8), too, gave as one of their main conclusions in their research on adolescent character and personality: "The ability to apply moral beliefs to an increasing range of conflicting life situations is quite undeveloped at the age of sixteen." While Morris (17) in his study in a London grammar school found that the boys and girls he investigated were moving towards some degree of moral autonomy, but were still bearing traces of inconsistent and rigid "codes of behaviour".

In summary, the results obtained in this study basically support those obtained by Bray on the types of characters selected as ideal persons, and the reasons given for the choice of such ideal persons. The present results show interesting differences from those obtained by Macaulay and Watkins. The passage of time has resulted in changes both in types of characters chosen and reasons given for the choices. Evidence obtained from the "Moral incidents" test tends to support others who believe that Piaget's theory needs to be modified especially where older children are concerned, e.g. Harrower (6),

Lerner (14) and Macrae (16). Furthermore, there was support for Gesell's view of the importance of fairness for fourteen- to fifteen-year-olds; and also of Havighurst and Taba's and Morris' findings that many of them were unable to settle conflicting moral issues, without seeking advice from someone else.

Elvin (3), in his address on Educational Development, stated that "our schools do try to foster a morality that goes beyond the shoddy values of the acquisitive society". Clearly "our schools" cannot help being involved in the moral development of children. Hemming (9) has outlined ways in which the school can help in this process; and Bray (1) has pointed out some educational implications of the choices of admired persons. These choices become important if what Jersild and Jeffreys believe is true when they write respectively: "The ideal the child chooses symbolises to some degree the values that have been stressed in the culture in which he lives and the values within that culture that appeal to him" (Jersild (12)); and "often the adolescent's urge to see himself in an admired character needs only a touch one way or the other to tip the scales of his admiration from criminal to saint" (Jeffreys (11)). Teachers can help therefore in presenting to children the examples of worthwhile characters and assisting them to think out moral issues for themselves. For whether they like it or not all teachers are concerned in the moral education of their pupils. The more we learn about this process of moral development the more guidance that can be given to children to become morally mature and autonomous.

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AN INQUIRY INTO THE EFFECTS OF LEAVING CERTIFICATE EXAMINATIONS UPON PUPILS' ATTITUDES

by R. V. KIRKPATRICK
Headmaster, Eckington Secondary School

I. INTRODUCTION

IN 1947, the Minister of Education issued a pamphlet entitled *The New Secondary Education* which contained the following statement: "In schools that have to cope with the wide range of ability and aptitude that are found in all modern schools, it is impracticable to combine a system of external examinations, which presupposes a measure of uniformity, with the fundamental conception of modern school education, which insists on variety" (1). This conception of the secondary modern school was widely accepted by educationists and few would have disagreed with the Minister. And yet, the Beloe Committee, reporting only thirteen years later, said: "We believe . . . that within a relatively few years the tendency towards the taking of external examinations amongst pupils below the G.C.E. group will gather such momentum that, even with continued ministerial discouragement, almost all schools will find themselves willingly or unwillingly conforming" (2). Several factors may be seen to have caused this fundamental change in the accepted role of external examinations in secondary modern schools; the writer was particularly concerned with one of these: the "tonic" effect upon pupils' attitude to their school work which an external examination is widely claimed to exert. To quote the Beloe Committee again: "Teachers and administrators have again and again emphasised the tonic effect which the introduction of external examinations has on the pupils in schools where they were not previously used" (2). It was the purpose of the writer to test objectively the view that external examinations have an improving effect upon the attitude to school work of pupils in secondary modern schools.

2. THE EXPERIMENT

A test of attitude to school work was constructed largely after the

manner of Thurstone (3). The scale of the test ranged from 0 to 9.0 with a neutrality mean of 4.5; a high score in the test indicated a favourable attitude. Ambiguous statements were excluded, the average "Q" value of the statements finally used being 1.5. Using the results of a pilot survey, a graphical criterion of irrelevance (4) was applied. A test of validity (4) and a split-half reliability test were also made on a sample of the results of the main survey; the split-half reliability coefficient of the attitude test was found to be 0.815; the "whole test" reliability estimated by the Spearman-Brown formula was 0.898. The test in its final form was printed and administered to all fourth-year pupils at three groups of mixed secondary modern schools in November 1962: Group A consisted of four schools in a Midlands County, Group B of nine schools in an Eastern County, and Group C of four schools in a Midlands County Borough. The numbers of valid test papers obtained were: Group A 556; Group B 617; and Group C 308. At both the Group A and B schools, an external leaving examination was taken during the fourth year. In both cases the examination was administered by a committee formed by the head teachers of a group of interested schools, assisted by other educationists drawn from the local authority, local technical colleges, and a university department of education. Both examinations were found by the writer to be catering roughly for that section of the ability range which the Beloe Committee considered suitable for the C.S.E. examination and which was later defined as "a band of candidates extending from those who just overlap the group taking the ordinary level of the G.C.E. examination to those who are just below the average in ability" (5). It should be noted, however, that the two examinations were taken during the fourth year and were, therefore, at a more elementary level than the projected C.S.E. examination. The Group C schools were used as a control group, for here no external examinations were taken. The results of the attitude tests were analysed statistically and, in particular, comparisons were made between the average scores of different groups of children.

3. A CONSIDERATION OF THE RESULTS

First, the average attitude scores of the different academic streams were compared and the results are shown in Table I.

It seems clear from Table I that the abler children in all schools had developed more favourable attitudes to school work than their less able fellows; put another way, the schools were catering more effectively for the aspirations of their brighter children. The gap in

TABLE I

School	Mean Attitude Scores of Streams						Range of Means	Average Range of Means
	A	B	C	D	E	F		
Group A								
A1	6.1	4.7	4.7				1.4	1.25
A2	5.4	5.1	4.9	5.0	4.6		0.8	
A3	6.3	5.8	5.7	5.1			1.2	
A4	5.9	5.4	5.3	4.8	4.3	5.1	1.6	
Group B								
B1	5.9	5.5	5.0				0.9	0.86
B2	6.0	5.4					0.6	
B3	6.2	5.5	5.2				1.0	
B4	6.4	5.1					1.3	
B5	5.0	5.0	4.5				0.5	
B6	6.5	5.5					1.0	
B7	5.8	6.0	5.6				0.4	
B8	One-Stream school						—	
B9	5.7	5.3	4.7	4.5			1.2	
Group C								
C1	5.4	4.9					0.5	0.55
C2	5.8	5.8	5.4				0.4	
C3	5.3	5.3	5.2	5.0			0.3	
C4	5.8	4.8					1.0	

average attitude scores between the bright and the dull was more marked in the examination schools (Groups A and B) than in the control group (Group C). The average range of mean scores of the different streams in the Group A schools is more than twice that at the Group C schools; a smaller, but still considerable, difference exists if a similar comparison is made between the Group B and Group C schools (6). The examinations were taken predominantly by the more able children: it was common for 90% of the "A" stream to be taking the examinations and only 30% of the lowest streams. It seems reasonable to conclude that the examinations had the effect of widening the gap between the attitude levels of the able and less able children. This conclusion is supported by the fact that a positive correlation of 0.76 was found to exist between (a) the mean attitude scores of the forty one classes at the Group A and B schools, and (b) the proportions of pupils taking the examinations in these classes.

A further point which may be noticed is that the mean attitude scores of the children in the highest streams of the Group A schools were higher in all cases except for school A2 than the mean scores of

the highest streams in any of the Group C schools. This was also true of five out of the relevant eight Group B schools if the highest streams in these schools are compared with those from Group C schools. The following table shows the mean scores of the "top" classes in each group of schools compared with the scores of the "bottom" classes; the term "top class" has been used to mean the fourth-year class in the highest stream, and "bottom class" means the fourth-year class in the lowest stream.

TABLE II

<i>Schools</i>	<i>Mean Scores of Children in the "top" classes</i>	<i>Mean Scores of Children in the "bottom" classes</i>
Group A	5.9	4.9
Group B	6.0	5.1
Group C	5.6	5.0
Group C, omitting C4	5.5	5.1

The comparisons made in Table II are unavoidably rough ones because the terms "top" and "bottom" have rather different meanings in schools of different size. However, the differences between the mean scores of the "top" classes of the Group A and Group C schools, and between those of the Group B and Group C schools are both significant at the first percentile. The "top" class scores at the Group B schools were slightly higher than similar scores at the Group A schools, but this difference was found to be not significant. This seems to indicate that the most able children at the schools where external examinations were taken had significantly better attitudes to their work than similar children in the control group of schools. However, before making this judgment, it must be said that a higher proportion of children were attending grammar schools in the town where the Group C schools were situated than was the case in the other two areas; it might be argued that attitude scores were merely reflecting ability levels, though the highly significant difference seems to require more explanation than this. What is perhaps more interesting is the fact that the differences which existed between "bottom" class mean scores at the different groups of schools are not significant; there is no evidence to indicate that there had been either a raising or lowering of these scores in the examination schools. The view that "below average" children are neglected when external examinations are introduced for the brighter children is not supported in an absolute sense by the evidence—the scores of the dullest children in the examination schools were not lower than the scores of

similar children in the non-examination schools. Relatively, however, it might be said that there is some evidence of neglect, for the improvement achieved in the examination schools was not evenly shared. It is often claimed that external examinations improve the attitude, not only of these children taking them, but of the less able children in the school who are not qualified to take them. In the schools visited during this inquiry, such a claim was not supported by the evidence.

The scores of the pupils in each school who intended to take an external examination were then compared with the scores of those who did not and the results are set out in the following table:

TABLE III

<i>School</i>	<i>Mean Score of those Taking Examination</i>	<i>Mean Score of those NOT Taking Examination</i>	<i>Difference</i>	$\frac{X}{\sigma}$	<i>Significance Level</i>
A1	5.7	4.6	1.1	6.4	.001%
A2	5.3	4.8	0.5	2.3	1.0%
A3	5.9	5.1	0.8	4.3	.001%
A4	5.5	4.7	0.8	4.6	.001%
B1	5.9	5.2	0.7	2.8	.25%
B2	6.3	4.9	1.4	6.0	.001%
B3	6.0	5.2	0.8	5.0	.001%
B4	6.4	4.7	1.7	7.7	.001%
B5	5.2	4.6	0.6	2.2	1.4%
B6	6.4	5.3	1.1	4.4	.001%
B7	6.0	5.5	0.5	2.0	2.5%
B8	5.8	4.6	1.2	2.0	2.0%
B9	5.5	4.8	0.7	3.2	.07%

It will be seen from Table III that in all schools, the children who intended to take an external examination had a more favourable attitude to school work than those who did not, and that the differences between the average scores were almost all significant at the first percentile. However, it has been shown that (a) more children in the higher academic streams took the examinations than in the lower, and (b) the means of the scores of the brighter children were significantly higher than those of the less bright. Clearly, therefore, it was necessary, in order to make a valid comparison, to compare the scores of examination and non-examination pupils within an ability stream. Because of the small numbers involved, it was not practicable to calculate the significance of these differences for each class, and so the following procedure was adopted.

The mean scores of children taking and not taking the examinations in all the "A" classes (both "A" and "B" classes were used in the larger schools) were calculated for each group of schools separately. In the Group A classes used in this comparison, those taking the examination had a mean score of 5.9 and those not taking it, 5.1. This difference of 0.8 was found to be significant beyond the 0.001% level. Similarly in the Group B schools, children taking the examinations in the top classes had a mean score of 6.2 and those not taking it 5.1. This difference of 1.1 was also found to be significant beyond the 0.001% level. Clearly then, in homogeneous ability groups, children taking the examination had significantly more favourable attitudes to their school work than children who were not taking it. At first sight, it seems reasonable to conclude that the examinations had played a part in effecting an improvement of attitude to work. However, it might be argued that this is not proved; that, in fact, the children who had the better attitudes to begin with were the children who had decided to take the examinations; they were predisposed, because of their better attitudes, to behave as the schools wished them to. So long as the comparisons made are simply between a group of children who had chosen to take an examination and a group who had not, this difficulty will remain. If, however, groups which exist independently of the examination are compared and the pattern of attitude levels which emerges is abnormal, and if the pattern of abnormality coincides with the pattern of incidence of examination candidature within the groups, then taking the examination will have been shown to be a cause rather than an effect of attitudes. For example, the children in the schools may be thought of as falling into three groups; a first group whose birthdays fell during the autumn term and who, in consequence, were entitled to leave school at Christmas; a second group who could leave school for the first time at Easter; and a third group who could not leave school until the end of the summer term. For convenience, pupils in the three groups will be referred to respectively as potential Christmas, potential Easter and potential summer leavers. The average attitudes of the three potential leaving groups were calculated in the control group of schools and no significant difference was found. In the examination schools, however, there was a considerable disproportion in the incidence of examination candidature within these groups. In the Group A schools, for example, where the examination was taken shortly before Easter, three-quarters of the potential Easter and summer leavers intended to take the examination, while only a

quarter of the potential Christmas leavers intended to do so. Similarly in the Group B schools (where the examination was taken during the summer term) almost nine-tenths of the potential summer leavers intended to take the examination, but only a little over a third of the potential Christmas and Easter leavers expressed this intention. The reason for these differences is clear; the potential Easter and summer leavers in the Group A schools, and the potential summer leavers in the Group B schools did not need to stay on after the statutory leaving date in order to take the examinations; the others needed to stay on for one or two extra terms. The consequent disproportion of examination candidature in the potential leaving groups was more marked in some classes than in others. The writer decided in the Group A schools to compare the average attitude score of the potential Easter and summer leavers with that of the potential Christmas leavers in those classes where (a) all potential Easter and summer leavers intended to take the examination, and (b) at least half the potential Christmas leavers did not intend to take it. He found that the potential Easter and summer leavers had an average score of 5.5, and the potential Christmas leavers, 5.3. This difference was found to be significant at 8% which was not an acceptable level of significance. In the case of the Group B schools, however, a similar comparison between the scores of potential summer leavers on the one hand, and potential Christmas and Easter leavers on the other, produced scores of 6.0 and 5.6 respectively. This difference of 0.4 was found to be significant at less than 1%. Thus, in the Group B schools at least, the examination is shown to have been an active agent, affecting attitudes, rather than a mere vehicle for the expression of existing favourable attitudes.

A further opportunity to reinforce this argument occurred during a comparison of boys' and girls' attitudes. In the control group of schools, there was no significant difference between the average scores of boys and girls, and what little difference did exist indicated that the boys had a slightly more favourable attitude to their work than the girls. In the examination schools, however, the reverse was the case. In both groups A and B the girls were found to have significantly more favourable attitudes than the boys. At the Group A schools, the difference between the boys' score (5.16) and the girls' (5.4) was found to be significant at the first percentile. There was an even greater difference between the scores of boys and girls at the Group B schools, where it was 0.6. This difference was found to be significant at less than 0.001%. An analysis of examination candi-

difference within the groups revealed that in both groups A and B a greater proportion of girls intended to take the examination than boys. In the case of the Group A schools, the difference was small, but at the Group B schools, 0.65 of the girls intended to take the examination but only 0.47 of the boys intended to do so. These differences in the incidence of examination candidature are clearly reflected in the attitude scores.

4. MAIN CONCLUSIONS

External examinations were shown to play an active part in improving pupils' attitudes to school work; the "tonic" effect of external examinations upon those who take them was clearly demonstrated.

In all the schools visited, whether external examinations were taken or not, there was a general tendency for children in the higher academic streams to have a more favourable attitude to their work than the children in lower streams; the schools appeared to be catering more successfully for the intellectual aspirations of their brighter children than they were for those of the duller.

External examinations in a school appeared to have the effect of widening this gap between the levels of attitude to work of the brighter and duller children. The claim that the incentive effect of an external examination is apparent among all pupils in a school, whether they take it or not, was not supported by the evidence in this inquiry.

5. SUMMARY

Since 1945 there has been a growing demand for external examinations below the level of the G.C.E. The use of various examinations by the schools has grown despite ministerial discouragement and, finally, the C.S.E. has come into being. It is widely believed that external examinations exert a "tonic" effect upon pupils' attitudes to school work, and this experiment was designed to test whether this was so in certain groups of schools.

Three groups of schools were selected. Group A consisted of four schools and Group B of nine, and in both groups a leaving examination was taken at the end of the fourth year. A control group—Group C—comprised four schools at which no external examination was taken. An attitude test was devised—largely after the manner of Thurstone—to test attitude towards school work. In a pilot survey the test was given to the fourth-year pupils at four of the schools; subsequently the fourth-year pupils at all seventeen schools were tested.

The results of the testings were analysed and comparisons were made between mean scores of different groups of pupils. The external examinations were found to have exerted a "tonic" effect on the pupils taking them, though this "tonic" effect did not appear to have been "passed on" to other pupils in the school who were not taking them. In all schools, the more able children were found to be more favourably disposed towards their school work than the less able, and the consequent gap in levels of attitude between the bright and the dull was found to be wider in the schools where external examinations were taken than in the others.

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5. Secondary School Examinations Council: *Scope and Standards of the Certificate of Secondary Education*, Seventh report of the S.S.E.C., 1963.
6. It will be noticed that within the Group C schools, the range of means at school C4 was exceptionally wide; the average range of means at schools C1, C2 and C3 alone was 0.4—i.e. less than half that at the Group B schools and only a quarter of that at the Group A schools. It is significant that, after the Group C schools had been chosen as a control group taking no external examinations, it was found that some children in the County Borough did take an examination conducted by the local technical college (for entrance to full-time courses) and for some years school C4 had been the most successful school in the town in this examination and took it very seriously.

EXTENDED COURSES IN MERSEYSIDE COMPREHENSIVE SCHOOLS

by J. D. CARSLY

Lecturer in Education, University of Liverpool Institute of Education

FIVE of the eight comprehensive schools on Merseyside have now been in existence long enough to enter for external examinations pupils who have received all their secondary education in a comprehensive school. Each school has now established its own distinctive pattern of curricular organisation, to be modified later as necessary. In this brief survey, an attempt is made to outline the procedures used to ensure that, as far as possible, each pupil taking an extended course in his fourth and fifth year will be enabled to take the subjects of his choice at a level within his reach. This is undoubtedly one of the most critical phases of educational guidance in the comprehensive school, when decisions are made that will have a bearing on the length of a pupil's school life and that will in most cases determine the nature of the course he will follow for the next two years.

Despite the fact that the percentage of pupils of accepted grammar school calibre on entry probably averages over the five schools less than 10%, the objective in each school is that at least half of the age-group should be steered into extended courses, usually leading to examination at "O" level, U.L.C.I. secondary schools certificate, Pitman's, R.S.A., and at one school to the catering examinations of the City and Guilds. Most Heads believe that the proportion of the "non-examinable" is not as large as the S.S.E.C. consider and plan on the principle that each pupil should be encouraged to go as far as he can in each subject. Membership of the extended courses is not confined to those who were in the top half of the school in the third year. Parental interest and a child's improved attitude to school-work are recognised as important factors in accelerating progress. Despite acute difficulties of accommodation which have now largely passed into history, and the predominantly working class community which four of the five schools serve, the aim of retaining half the children is already nearing achievement.

This has been made possible only by giving to the parents full

The results of the testings were analysed and comparisons were made between mean scores of different groups of pupils. The external examinations were found to have exerted a "tonic" effect on the pupils taking them, though this "tonic" effect did not appear to have been "passed on" to other pupils in the school who were not taking them. In all schools, the more able children were found to be more favourably disposed towards their school work than the less able, and the consequent gap in levels of attitude between the bright and the dull was found to be wider in the schools where external examinations were taken than in the others.

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Describe the fact that the percentage of pupils of accepted grammar school calibre on entry probably averages over the five schools less than 10%, the objective in each school is that at least half of the age-group should be steered into extended courses, usually leading to examination at "O" level, U.L.C.I. secondary schools certificate, Pitman's, R.S.A., and at one school to the catering examinations of the City and Guilds. Most Heads believe that the proportion of the "non-examinable" is not as large as the S.S.E.C. consider and plan on the principle that each pupil should be encouraged to go as far as he can in each subject. Membership of the extended courses is not confined to those who were in the top half of the school in the third year. Parental interest and a child's improved attitude to school-work are recognised as important factors in accelerating progress. Despite acute difficulties of accommodation which have now largely passed into history, and the predominantly working class community which four of the five schools serve, the aim of retaining half the children is already nearing achievement.

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information of the nature and purposes of the extended courses, and by explaining to them the educational and vocational benefits that will accrue to children who work hard. The usual practice is to give duplicated course summaries to parents whose children are nearing the end of the third year. They are invited to a meeting at the school when the Head or a deputy will describe the scheme in more detail, referring to what can be arranged for each of the three main groups of children: those who wish to stay on till sixteen (or later), those who wish to complete a fourth year, and those who will leave at Easter. Individual consultations often follow the talk, so that the parent can discuss his child's prospects with the teachers concerned. Parents who are absent from the meeting may have the opportunity of an interview later. The Youth Employment Officer does not normally operate at this stage, unless it is the year when a careers convention falls due, at which parents and sometimes third-year pupils are invited to be present. It can be argued that for the abler pupils, especially for those who will proceed to the sixth form, careers decisions might be premature and distracting. Good careers advice, whether from a careers teacher or a Y.E.O., may help average children to select a suitable course, and may persuade them to continue their education rather than to seek the first available job at fifteen.

Although the parent has had opportunity to consult with the teachers, and in several schools is asked to complete and sign a "fourth year courses" form as a token of his responsibility and his status as a partner, the decision as returned to the school has been in effect generally taken by the child, with or without the benefit of individual discussion with the teaching staff. The Head has then to see whether he can give his approval: he reserves the power of veto, but he does not deprive the parent or child of the exercise of option. When considering whether he should decide to prolong his stay at school by an additional year, the pupil takes into account his total impression of school life. He is influenced by the personal satisfaction he has gained from his favourite subjects and the degree of success he has achieved in them. Or he may be attracted to a new field of experience, like seamanship or vehicle technology or Russian. His career interests may lead a boy into a technical course, perhaps with a view to an engineering apprenticeship at sixteen, or a girl may plump for a commercial or pre-nursing course. Whatever he decides upon he will find that he must discontinue several subjects. But at least the breadth of his earlier preparatory course has supplied him with valuable data which, in the absence of subject aptitude tests,

supply the best available guidance in composing a suitable course.

To the teacher, a pupil's previous performance in a subject, or in a kindred one, serves as a predictor; children who have done moderately well in one foreign language would not normally be encouraged to take an additional one. Complete freedom of choice for the pupil does not exist in any of the five schools. General guidance is given, according to the curricular policies which have been formulated within each school. There is a tendency in one or two schools to steer abler children away from taking commercial or practical subjects at "O" level, since entry requirements of universities, technical colleges and professions are stated in terms of "academic" subjects. In one school the balance of the curriculum is automatically ensured by having as a first condition that English, mathematics, a science subject, a foreign language and either history or geography are included, with the two remaining subjects being chosen from a pool of nine. In each school, the maximum number of examination subjects to be taken by each pupil is seven, or eight if English Literature is offered. In those courses where English and Mathematics are the only compulsory examination subjects, it is not uncommon for pupils to take three sciences, with one, or more rarely, no foreign language. At one school at least, all boys whose ability warrants it are advised to take at least two sciences. In view of the poor linguistic backgrounds of most of the pupils and the market value of a scientific qualification, such a bias is likely to be empirically justified, except possibly where pupils have been induced to study subjects which have no intrinsic appeal for them. A combination of two sciences and two languages is less commonly found, and only rarely do pupils take three languages.

At one school the choice is made in two stages. First, a course is selected from five named courses: academic, art and crafts, technical, commercial and catering. Then within each course, except the catering, there are further options to make, particularly in the "academic" which includes the majority of the pupils in extended courses.

The demand for some subjects may be in excess of the school resources in staffing or specialist rooms. Temporary staff shortages have meant that the option of music had to be withdrawn in one school, and elsewhere that not all the girls who wanted to take house-craft were able to do so. Or there may be insufficient demand to make a teaching group viable, as in scripture at one school and economics at another. In such circumstances a pupil will turn to his second choice.

Once the pupil has begun his course in the fourth year the subject composition of his individual timetable is rarely modified. The necessity to check upon progress is acknowledged, but it is felt that the pupil's great need is to be allowed to settle down in his course. A cover for emerging subject-deficiencies might be supplied later in the sixth form or in a college of further education. Examples when movement from one option to another might be arranged are cited from one school where a boy making only slow progress in physics and chemistry as separate subjects might be advised to take physics-with-chemistry, or from another school where the wish of a girl to transfer from a main option like commerce to art and craft might be allowed, subject to departmental approval. Changes of this nature are likely to take place during the first or second term of the fourth year. In one school, several boys who had dropped chemistry for additional maths. at the end of the third year were allowed to resume chemistry again in the fifth year, but here the circumstances were exceptional. Changes are more likely to take the form of a transfer from one set to another within each subject, according to the progress made by the pupils and the examination orientation of the set. The decision as to whether a subject is to be taken by a pupil at "O" level, U.L.C.I. level or to be continued without an examination is not finally taken for each pupil until after the internal examinations early in the second term of the fifth year. If and when the C.S.E. syllabus becomes markedly different from the "O" level, this decision will have to be made sometime during the fourth year. In one school an accelerated group is entered for "O" level in a varying number of subjects, with a view to building up a third-year sixth form; in another, English language has been taken at "O" level in the fourth year, allowing more time for the study of English literature in the fifth.

In an inquiry initiated by the present writer and carried out in the five schools in the Spring Term of 1963, all pupils taking extended courses in the fourth year and a smaller sample of 15+ leavers were asked to state the subjects they took and to give their preferences, and to say what subjects they would like to drop and which they would like to add. The most frequently taken option was history, with rather more than one in two pupils taking it. Following it, in order of frequency came geography, physics, biology, chemistry, technical drawing, French, metalwork plus E.W.T.P., art plus light craft, commerce plus typing and shorthand, housecraft, woodwork and general science. Science subjects averaged 1.15 for each pupil,

technical subjects 1, and languages 45. "O" level options which attracted fewer than 1 in 10 pupils over the five schools were scripture, music, ancient literature, Latin, German, Spanish, Russian, physics-with-chemistry, physiology, mechanical science and needlework. Comparisons with returns from early leavers, show that the practical subjects, especially woodwork, needlework, housecraft and cookery were more widely taken by the leaving group, who took no foreign language at all after the third year.

The pupils in the extended courses showed they had subject preferences similar to those of the leavers: both groups gave a high rating to commercial subjects (especially typing), metalwork, housecraft, woodwork and needlework. Pupils gave above average approval to extended courses in biology, art and craft, technical drawing, music, history and modern languages. Least favoured subjects in both groups were music (general) and religious education. English and mathematics were regarded with rather more favour by the leavers' forms.

Fewer than one in three pupils in the extended courses stated that they wished to drop a compulsory subject, religious education, music (a "cultural" subject for most in two schools), mathematics, P.E., English and art (like music, a subject of general culture in two schools) being named in that order of frequency. The time given to non-examined subjects was very small: in one school this was reduced to three periods in P.E. (religious education being allotted three periods and an examination syllabus followed). The two schools which introduced a compulsory aesthetic subject as a balancing element in a course which may be predominantly academic or technical were able to assign little time to it. Rather more than one in three pupils wished to drop one of their options, with Latin, physics, French, chemistry and geography receiving the highest proportion of disfavour. It was noted that pupils showed a good measure of interest in a new subject, and few wished to abandon it (e.g. a second language, commerce, catering). The commonest reasons given by the pupils for wishing to drop a subject were, in this order: boredom with it, poor pupil progress, dislike of the teacher or of his methods, the irrelevance of the subject to the child's present or future needs, and its inherent difficulty (e.g. mathematics, physics, chemistry and shorthand). The fact, however, that a subject was difficult to grasp was not by itself a reason for a pupil wishing to discard it.

Four out of five pupils said they would like to take an additional

subject, often in exchange for one they wanted to jettison. Almost all of the subjects mentioned were acceptable secondary school subjects, though not all were included in an extended course in a particular school. A few pupils mentioned courses which were available in a neighbouring school, for example several in a boys' school would like a course in catering or commerce, and in mixed schools a few pupils wanted a course in vehicle maintenance, seamanship, rural studies or pre-nursing. This raises the question as to whether it might be desirable to consider the possibility of arranging a few transfers (on a whole or part-time basis) from one school to another for special courses of this nature.

The principal subjects for which there was an unsatisfied demand were, in this order: art, needlework, woodwork, housecraft, history and typing, all but one a practical subject. The reasons most often given for wishing to take other subjects were, in this order: the previous enjoyment of the subject, its usefulness in satisfying personal needs now or after leaving school (including travel abroad), the attractiveness of the constructive or creative work involved in practical subjects and the career value of a subject. The leavers' replies showed much less demand for additional subjects, but it is worth noting that almost one in five wished to take a foreign language.

Despite the constant efforts being made to frame suitable courses to match the aptitudes and abilities of individual pupils, it is evident that several academic subjects were less likely than others to maintain interest. The indications are that the contemporary emphasis on science has resulted in some pupils taking physics or chemistry with little prospect of enjoyment or a feeling of progress. Perhaps the S.S.E.B.,* expected to set its first examinations in this area in 1966, will give more freedom to construct suitable syllabuses in science subjects. The interest that many pupils claimed they have in constructive or creative work seems to suggest that more provision might be made for woodwork and light craft in the extended courses.

The place of non-examined cultural or aesthetic subjects in extended courses poses a difficult problem. Newsom's view that an area of the curriculum should not be subject to external examination finds general acceptance in two schools, apart from the customary P.E. and R.E. The survey showed that many pupils have a poor opinion of unexamined subjects, possibly because of a strong element of compulsion and a lack of personal incentive, or perhaps because not enough time is supplied for the teacher to develop the subject.

* The North Western Secondary Schools Examinations Board.

A promising innovation is the inclusion of realistic subjects like vehicle technology, social studies, rural science and seamanship for pupils who do not desire to take a full programme of examination subjects. Possibly the future for the non-examined part of the course lies in the provision of a pool of options, appealing to children's personal needs and interests, from which a choice can be made.

One is tempted to ask what more a teacher-counsellor might do than is being already done in the schools. Probably he would make a more detailed study of children's interests in subjects, hobbies and careers, possibly using one of the available interest scales. He might, in some cases, use aptitude tests. He might probably seek to identify by the end of the first term those pupils who were clearly not suited to an option, and to consider the possibility of a transfer to another subject. He might seek to establish what factors determined the courses that children took in the fourth year, and whether any of these factors obstructed the making of a suitable choice.

TESTING RESULTS IN THE DAY MALADJUSTED SCHOOL

by E. SIMMONDS

Headmaster Moatbridge School

I. INTRODUCTION

DAY SPECIAL SCHOOLS for maladjusted children are relatively newcomers to agencies which exist to provide special educational treatment for handicapped children. Apart from some short descriptive articles (1) there is, as yet, very little literature available concerning the pupils attending such day special schools.

There is no study available comparable with Petrie's (2) survey of 23 children who had been ascertained as maladjusted and were attending a residential special school. Using the Bristol Guides, he measured the mean improvement in the adjustment of the sample of children, aged 7 to 12, over a period of 18 months.

The particular school which formed the base for the present survey was situated in the extreme south-eastern corner of the County of London, and was the second school of this nature to be opened by the Authority.

2. PURPOSE OF SURVEY

The present survey was conducted in order to ascertain the extent of the benefits that the environment of the special day school extended to the maladjusted children who attended. The terms of reference were left wide purposely, to reduce the tendency to look for data in the results in order to prove preconceived theses.

The chronological ages of the boys and girls attending the school ranged from 5 plus to 16 plus, with a heavy bias to boys of secondary school age, as Table I illustrates.

Of the total of 146 pupils, it was not possible to keep complete records of 16 pupils who, for a variety of reasons, left the school during the period of observation.

Where the home situation altered considerably during the period of the survey (6 cases) and in 4 cases where special circumstances brought about a complete reorientation of the life of the child, their case histories were not included in the final statistical treatment.

TABLE I

DISTRIBUTION OF CHRONOLOGICAL AGES
(Pupils Attending Special School)

Age Range	Under 11	Above 11	Sample	Not Included in Final Treatment	Total School Roll
BOYS	31	61	92	18	110
GIRLS	8	20	28	8	36
TOTALS	39	81	120	26	146

As the incidence of maladjustment is not confined to any specific level of intelligence, the community contained children on the borderline of educational subnormality as well as those who could attend ultimately a grammar school or a technical school.

Table II indicates the distribution of the various levels of intelligence in the 120 pupils under observation, assessed by the Matrices Tests (3, 4).

It will be seen that 60% of the sample was of average intelligence, with approximately 90% within the middle three categories of above average, average, and below average.

TABLE II

DISTRIBUTION OF INTELLIGENCE
(N 120 — B. 92, G. 28)

	Superior Intelligence	Above Average	Average	Below Average	Defective Intelligence	Total
Boys:						
Primary	—	6	20	9	2	37
Secondary	3	5	34	9	4	55
GIRLS:						
Primary	—	1	8	1	—	10
Secondary	2	1	10	3	2	18
TOTALS	5	13	72	22	8	120

Included in the sample were 5 epileptic, 3 physically handicapped, 1 autistic, 3 spastic and 2 asthmatic children, as well as 8 having speech problems, 2 with acute vision and 3 with serious hearing handicaps.

Just over 43% of the pupils were deprived and/or on Fit Person's Orders. The majority of these lived in Institutions or Hostels, and like the other children many were enuretic and/or encopretic. Those

children whose anti-social behaviour had brought them before the Juvenile Courts were on varying periods of probation.

There were two factors common to the pupils in this comprehensive sample: one of which would appear to be the inability to make good and happy relationships with adults and/or children. The other was the preoccupation with their personal problems, thereby preventing them from responding fully to the educational programmes provided by the normal types of schools.

When admitted to the special school the children were often found to be not only considerably retarded with their school work, but their interests had become so blunted that they showed little inclination for academic subjects and their span of concentration was limited.

3. NATURE OF THE THERAPY

When admitted the children were easily irritated and were quickly dissatisfied and discouraged by the poor standards of their efforts. They were ever ready to mutilate their own work, that of others, or to vent their venom against any form of authority. The essential need, therefore, was to provide a flexible, informal and tolerant environment which permitted each child to build up warm intimate relationships with the members of the staff as well as their contemporaries.

Under the tolerant, encouraging attitude of the class teacher, the pupil gradually found that he was treated with respect no matter how great the degree of his disturbance, and that he became accepted (in most cases) by the other members of his group. The timid child acquired the elements of courage, while the aggressive child became more relaxed and less hostile towards forms of authority. Gradually, with the interchange of class teachers for creative activities, more demands could be made upon the child so as to help him to cope with problems that arose from the cut and thrust of the daily life in his own home.

The child's spontaneous interests were utilised so as to increase his span of concentration and at the same time to allow him to enjoy the pleasures arising from success. The natural physical activities (running, jumping, climbing, camping, swimming) were practised at first in isolation, so that the child was only in competition with himself. When the child was ready, the element of healthy competition was introduced through activities involving two players (e.g. badminton, chess) and gradually the size of the group was increased.

Craft projects enabled the child to enjoy a sense of satisfaction which arises from the thrill of being able to control a variety of media. Wherever possible these skills were utilised in group projects, particularly where a pupil excelled in one media and could make an essential positive contribution towards the group project.

These activities, together with a background remedial educational course, constituted the environmental therapeutic contribution that the day special school provided. The emphasis was not on physical aids, such as drugs, insulin etc. (although in some cases they were used as temporary aids), but rather on the interpersonal relationships which enabled revised outlooks and attitudes "to be caught".

During the early days in the life of the school the teaching staff of the establishment built up at a greater pace than the medical staff (5). Hence the school attempted to fulfil a role somewhat midway between the clinical approach of a Child Guidance Clinic attached to a hospital or a psychiatric unit, and the more conventional educational programmes associated with ordinary schools.

4. METHOD OF ASSESSING SOCIAL ADJUSTMENT

The Bristol Social Adjustment Guides were used as a diagnostic test to assess the overt behaviour of each pupil (6, 7). These comprise lists of phrases and words which describe objectively facets of behaviour. They are arranged into groups and scrambled so as to reduce the "halo" effect of any particular item. The marker underlined on the printed schedule the words or phrases which were considered applicable to the child in question. Then, by superimposing a transparent template over the marked schedule the underlined items were given a serial number. These numbers were then transferred to a simple record sheet which could be kept with other notes in the case history file.

The basic instinctive reaction patterns which lie at the back of the maladjusted attitudes are universal. They may, however, become operative in special circumstances, e.g. when the home disintegrates around a child, or when a raw teacher mishandles a sensitive lad in a large class. The over-readiness of these reactions to come into play without good reason is indicative of an unstable personality. (8)

The diverse forms in which maladjustment may reveal itself make it exceptionally difficult to attempt any mathematical comparisons of the personalities involved. Hence no attempt was made to compare any two pupils using the raw scores from this procedure, as sole

criteria, without reference to the background detail showing how the scores were obtained.

The Bristol Tests attempt to assess the degree of contemporary adjustment of the child, for they list the reactions which the child brings into play in the surroundings where he is under observation. Hence, if the test is administered at regular intervals over a period of time, it should provide an indication of how the pupil is reacting to the environmental treatment.

The sample of 120 pupils was observed for a period of three years. The initial test was given one month after admission to the special school and the six subsequent tests at six month intervals.

Some degree of differential reaction to individual markers was anticipated, since each adult presented a somewhat different situation to a child. In order to combat these personal feelings each schedule was twin marked. Each child was assessed by his class teacher and the head teacher recorded a sheet for every child. In the five instances where there was a lack of congruency between the scoring of both markers, these particular histories were omitted from the final statistical treatment.

During the period of the survey the teaching staff may well have gained a greater understanding of these disturbed children. The possibility of an "intervention effect" of using the Guides, analagous to a practice effect in re-testing, must not be overlooked therefore.

5. CONCLUSIONS

Table III gives a breakdown of the raw scores over the period of three years.

TABLE III
RAW SCORES—STOTT'S TEST
(B. 92 — G. 28)

	<i>Initial</i>	<i>6 mths.</i>	<i>1 yr.</i>	<i>18 mths.</i>	<i>2 yrs.</i>	<i>30 mths.</i>	<i>3 yrs.</i>
Maximum Score	68	51	40	33	31	23	20
Mean	37	29	28	25	22	18	14
Minimum Score	21	12	13	12	10	9	9
$M \pm 2.S.D.$	42-27	43-15	38-18	31-18	28-16	22-14	18-10

(1) The mean improvement in the 103 cases out of the 120 histories did not follow any gradual process of decreasing scores. The scores fluctuated up and down in every case, following no particular

pattern, except for an abrupt drop which occurred within the first 3 to 6 months. In 82 instances the third score was higher than that obtained in the second test and in 16 of these instances the scores of the pupils continued to increase to the fourth score. (The period of getting worse before one gets better.)

(2) There was little significant difference between the scores for the sexes, but the size of the sample of girls was probably too small to be considered as being fully representative.

(3) There was a brisker response from the 9-12 age group, in both sexes, than the younger or older groups. The over 14's showed the poorest response to the environment. In the early days of the school, owing to the limited psychiatric treatment facilities available within the area, a number of highly disturbed adolescent pupils were admitted to the school, for whom hardly anything could be done. They came to the school as failures, and were deeply aware that adult society was out of sympathy with them. They were unable to benefit from the new environment, but the ordinary schools, nevertheless, were relieved of these disruptive, time-consuming, turbulent elements and were able, therefore, to follow their programmes with greater ease.

(4) The level of intelligence did not reveal itself as a vital matter in this investigation, except for the pupils in the E Category (the Defective Intelligence group). It was often felt that its members suffered much frustration from the standards and competition of their brighter contemporaries. It is doubtful, also, if they would continue to maintain a low score after leaving school when faced with the added situation of undertaking employment, whereas the members of the other categories might.

(5) The members of the U/W Group responded more than those of the other Group (H/A). Perhaps this is not so surprising. The more withdrawn pupils were able to profit from their environment by experimenting within a fairly secure environment, and so come to terms with their limitations and abilities. The H/A Group, however, had had many years experience of living in broken homes, of rejections by foster parents, of numerous transfers between schools and between a variety of institutions—as though they were mere parcels buffeted about by official whims. The school environment, therefore, was for them merely another temporary resting place where somebody would decide the next move. During their stay they could resort to violent outbursts as a means of release and obtaining attention.

6. DISCUSSION

A repeat of the experiment measuring the results at termly intervals, with all the pupils tested within one week of the commencement and again within the last week of each term, would prove valuable. The major holiday periods (Easter, Summer, Christmas) interfered with the natural development of the child. The "school" phobias were particularly unsettled by these interruptions and regressed.

The day special school for maladjusted pupils is still in its infancy. It can make a positive contribution towards the rehabilitation of the mentally sick, but its function amongst the other agencies as yet is not clearly defined.

(This account is an extract from a larger survey carried out with the financial support of a Leverhulme Grant)

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ANXIETY IN THE PRIMARY SCHOOL CHILD

by G. H. TURNBULL

Lecturer in Educational Psychology, Aberdeen College of Education

I. INTRODUCTION

DOES anxiety affect performance in Verbal Reasoning and Attainment tests in school? In this country relevant studies have been made by Lynn (1), Bowyer (2), Hallworth (3), and Biggs (4). A series of investigations by Sarason and co-workers (5) in the United States and England suggests strongly that anxiety consistently interferes with potential and, as the useful review of the literature in the same publication shows, a good deal of experimental evidence also points in this direction. Sarason used two questionnaires, the general anxiety scale (GASC) and the test anxiety scale (TASC). The hypothesis was that poorer performance in school would be more closely related to the latter than the former. When scores on these tests were compared with I.Q.'s and attainment scores, negative correlations, for the most part, resulted, particularly with TASC. Thus more than average anxiety on GASC and TASC tended to be linked with lowish I.Q.'s and attainment scores.

The following investigation was carried out to see if similar results would be obtained and to find if test anxiety scores tended to fall after the transfer test taken at age 11+ in Primary 7.

2. METHOD

A maximum of one hundred and seven children* in the Demonstration School of Aberdeen College of Education answered both GASC and TASC. The wording of some of the "American English" questions had to be changed to make them understandable and one item in TASC was omitted altogether, i.e. Do you worry about being promoted, that is, passing from the . . . grade to the . . . grade at the end of the year? It was felt that it would be better to let the children read and answer the questionnaires themselves, whereas Sarason recommends that questions should be read out by a tester or class teacher. There did not seem to be any difficulty about the

* This number was lower in some tests because of absence or unavailability.

understanding of the questions when the former method was used.

Scores on GASC and TASC represent the number of times each child answers Yes. There were 29 questions in TASC and 45 in GASC and the higher the score, the more anxious the child is supposed to be.

Results from four other tests were also used. These were:

1. N.F.E.R., Primary Verbal Test 2 (6)
2. Schonell's Problem Arithmetic Test (7)
3. Schonell's Silent Reading Test B (8)
4. Schonell's Essential Intelligence Test
(taken at age 9+ by all Aberdeen schoolchildren) (9)

The first three of these were completed during the same week as TASC and GASC. Quotients were obtained for all four. Mean scores on all tests were as follows:

TABLE I: TASC AND GASC

<i>Test</i>	<i>N</i>	<i>Mean</i>	<i>S.D.</i>
TASC	102	12	5
GASC	103	19	8

TABLE II: VERBAL REASONING AND ATTAINMENT

<i>Test</i>	<i>N</i>	<i>Mean</i>	<i>S.D.</i>
Primary Verbal 2	87	116	10
Problem Arithmetic	106	117	18
Silent Reading B	107	124	18
Essential Intelligence	106	123	11

3. RESULTS

When the quotients obtained were correlated with scores on TASC, the following co-efficients resulted:

TABLE: III TASC

<i>Tests correlated</i>	<i>N</i>	<i>Correlation</i>
TASC with I.Q. (9+)	87	- .204*
TASC with I.Q. (PV2)	83	- .04
TASC with Problem Arithmetic	100	- .291†
TASC with Silent Reading	100	- .075

* Significant at .05 level

† Significant at .01 level

There may, therefore, be a tendency for anxiety about tests to have an adverse affect on the performance of these able children, particularly with problem arithmetic and intelligence tests. Sarason claims that he has found that higher negative correlations tend to occur the more test-like the situation or the more difficult looking the test. Perhaps Primary Verbal Test 2 has a less "Intelligence Test" content than the Essential Intelligence Test, and this may explain why it did not show a significant negative correlation with TASC.

TABLE IV

GASC

<i>Tests correlated</i>	<i>N</i>	<i>Correlation</i>
GASC with I.Q. (9 +)	85	-·007
GASC with I.Q. (PV2)	85	+·002
GASC with Problem Arithmetic	102	-·16
GASC with Silent Reading	102	+·005

The only one of these that approached significance (·01 level) was that between GASC and Problem Arithmetic. Except for this, there does not seem to be any connexion between scores on this scale and performance.

Sarason points out that one could explain such negative correlations as those obtained with GASC and TASC by saying that lower intelligence or attainment in the child produces anxiety, but he believes that, in the main, the opposite is true. He claims that, as already mentioned, the more test-like the situation, the higher the negative correlation. In addition, he found that subjects matched for I.Q. but with different TASC scores performed significantly differently on a learning task, with high anxiety individuals scoring lower. If I.Q. were the controlling factor, there would be no such difference. The high average quotients of the children involved in the Aberdeen study would also seem to invalidate the suggestion that low I.Q.'s produce anxiety and, therefore, negative correlations with anxiety scores.

If anxiety is caused by tests and examinations, it might be that those children due to take the transfer tests next would show the greatest degree of anxiety. In the Aberdeen group, Primary 7 had completed the test (11 +) four months before, so that one might expect that Primary 6 would show the greatest anxiety. The following table shows average scores which, with GASC, appear to support this hypothesis.

TABLE V

<i>Class</i>	<i>N</i>	<i>TASC</i>	<i>GASC</i>
P. 5	39	12	17
P. 6	36	12	23
P. 7	27	12	18

The difference between GASC mean scores for Primaries 5 and 6 was significant at .01 level ($t = \frac{5.9}{1.77} = 3.33$, $df = 75$) and for Primaries 6 and 7 at .05 level ($t = \frac{5}{1.93} = 2.59$, $df = 61$).

Since these differences occur with GASC, however, it may be that 11 + anxiety is general, rather than specific to tests. As the only test which showed a definite negative correlation with general anxiety was problem arithmetic, it may be that it is performance in arithmetic that is most affected by pre-examination anxiety.

To find if there were any decrease in TASC and GASC scores after the transfer test, the children who had been in Primary 6, and had proceeded to Primary 7, again completed TASC and GASC one month after the transfer test and nine months after the first administration of TASC and GASC. (Scores under the heading "Before" are slightly different from those from Primary 6 as above because some of the original children had left or were absent.) The mean scores are given in Table VI.

TABLE VI

GASC <i>N</i> = 25		TASC <i>N</i> = 25	
<i>Before</i>	<i>After</i>	<i>Before</i>	<i>After</i>
22.3	19.3	12.8	10.1

The difference in mean GASC scores of 3 was significant at .05 level ($t = \frac{3}{1.375} = 2.18$, $r = .31$, $df = 24$). It has been found, however,

that scores do tend to decrease at second testing and the drop in mean TASC score was not significant (Sarnoff and Sarason (10) actually found a drop in TASC scores in England just *before* the eleven plus). Correlations between test and re-test scores on GASC and TASC were +.61 and -.41 respectively. The second of these may have been caused by the changeover of the large majority of this group of children from one teacher to another.

If anxiety does adversely affect performance, what worries the

child most? An analysis of the answers to each item gave the results shown in Table VII.

TABLE VII

<i>Type of Anxiety</i>	<i>Number of Children Reporting such Anxiety</i>	<i>Percentage of Sample</i>
<i>GASC</i> 1. When parent away from home will he/she return?	60	57
2. Parental illness	60	57
3. Worrying before going to sleep	60	57
4. Fear of snakes	53	50
5. Fear of some radio and T.V. programmes	46	44
<i>TASC</i>		
1. Missing important details when absent from school	61	58
2. Making mistakes in oral reading	57	54
3. Oral arithmetic—hoping not to have to do sums	49	47
4. Worry before tests	41	39
5. Fear of school tests	34	32

As a result of the re-test, the pattern of answers on TASC in the one class was checked to see if any changes had occurred:

TABLE VIII

<i>Type of Anxiety</i>	<i>Percentage Reporting Before</i>	<i>Percentage Reporting After</i>
Missing important details when absent	73%	35%
Mistakes in oral reading	50%	38%
Oral arithmetic	40%	69%

Missing details is not so worrying as before but arithmetic has become more worrying than reading. This may mean that the teacher of Primary 6 emphasised reading while the Primary 7 teacher stresses arithmetic. Thus, some children would be more worried and others less worried as a result of this change of emphasis and this may be the explanation for the negative correlation found in test re-test on TASC.

Do Scottish children show more anxiety than their English and American counterparts? The following comparative mean scores

seem to show that they do, although, of course, the Scottish group is very small. GASC showed the biggest differences.

TABLE IX

GASC

	<i>American</i>	<i>English</i>	<i>Aberdeen</i>
Boys	7	8	18
Girls	16	15	20
All	12	11	19

One might expect equivalently higher scores on TASC with the Aberdeen children, but this was not the case:

TABLE X

TASC

	<i>American</i>	<i>English</i>	<i>Aberdeen</i>
Boys	6	9	12
Girls	8	11	12
All	8	10	12

There is certainly a suggestion here that children in the U.K. are more prone to test anxiety than American children and that in both scales, girls show a consistently greater tendency to worry than boys, although the difference in mean GASC scores between Aberdeen girls and boys was not significant.

GASC contains a "lie scale". Eleven questions are about such universal worries that it would be unusual for anyone to answer "no" and also be accurate e.g. "Are you ever unhappy?" Sarason tried out the idea of omitting those whose lie score was greater than 9 on the original 13 item lie scale to see if correlations became significantly higher. Small increases did in fact occur. In this instance the mean L scores of the test re-test group were calculated. With the first testing this was 3.5 and at the second, where there was a significant drop in average score, the L score was 3.8. To some extent, then, this suggests that this change was genuine.

3. DISCUSSION

It would seem then that Test Anxiety is associated with a certain impairment in performance, that such anxiety lessens after the tests, and that the particular form it takes depends on the emphasis of the teacher. General Anxiety is also greater before the transfer test and significantly diminishes after, but it seems to be relatively unconnected with test performance. Since the General Anxiety Scale

shows a high incidence of fear of parental loss, perhaps the influence of parents is considerable in the development of general anxiety. Nevertheless, the teacher seems to be the adult who can most influence the child's attitude towards tests.

In contrast to such results with school children, it seems to have been found with young men and women at Universities and Colleges that a certain degree of anxiety and introversion is associated with better examination results (11). Although examinations in these cases are not usually standardised tests of the kind used in this experiment, it would be interesting to know at what developmental stage anxiety begins to have this effect on motivation.

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BOOK NOTICES

W. J. SPARROW, *Knight of the White Eagle: A Biography of Sir Benjamin Thompson, Count Rumford (1753-1814)* (London, 1964).

TECHNOCRACY has no more colourful figure in its early hagiography than Benjamin Thompson, Count Rumford. His domestic inventions—fire-grates, lamps, soups and coffee-pots—ensured the respectful attention of his own generation, just as his efforts to promote scientific education have attracted the attention of ours. But were that all, he would stand forth no further than a score of his contemporaries. For what gives him status as a representative of the modern spirit is his Atlantic Outlook. American born and bred, he conducted a scientific campaign against poverty and squalor in Munich, founded the Royal Institution in London and died near Paris after several years active scientific work as a member of the Institut.

Reared not many miles away from his christian namesake, Franklin, on the same homely principle that education and a taste for practical things went together, Benjamin Thompson acquired an interest in mechanical contrivances that at first found expression in the manufacture of fireworks. Graduating from this to gunpowder and later, during the American War of Independence, to guns, he was elected F.R.S. Crossing to Europe from Britain he was aptly described by his fellow traveller, the historian Gibbon, as "Mr Secretary, Colonel, Admiral, Philosopher Thompson".

Finding employment in Bavaria where there were more monasteries than factories, Thompson helped purge the Bavarian academy of Sciences of republican contaminations, reorganised the army, using it for public works, and constructed a workhouse for beggars. He also founded a garden. At intervals within it, cottages and farmhouses were built as models, stocked with specially selected cattle "concealed in a thick wood behind a public coffee house in the middle of the garden".

For these and other achievements, the inventive American was appointed Bavarian ambassador to Britain: a role in which King George III found him unacceptable.

Rumford's work for the poor in Munich had, meanwhile, attracted attention in Britain where another American, Sir Thomas Bernard, had, in 1796 with others, founded The Society for Bettering the Condition of the Poor. "Go on, my dear Sir," Rumford told him, "and be assured that when you have put *doing good* in fashion you will have done all that human wisdom can do to retard and prolong the decline of a great and powerful nation that has arrived at or passed the zenith of human glory."

The Baconian zest behind Rumford's activities (he had much of his

intellectual ancestor's political amorality) led him to tell Bernard "there must be something to *see* and *touch* otherwise people in general will have but faint, imperfect and transitory ideas of those important and highly interesting objects with which you must make them acquainted in order to become zealous converts to our new philosophy and useful members of our community".

This "new philosophy" now had its active proponent in England when Rumford's credentials as Bavarian ambassador were not accepted by the King, thus leaving him free to attend a committee meeting of the Society for Bettering the Condition of the Poor, and dilate upon the ways in which ideas, especially those concerning domestic comfort and convenience, and the application of science to arts and manufactures, could be speedily diffused no matter in what quarter of the world they may have originated.

Rumford's multi-purpose project comprised a teaching laboratory coupled to a museum and exhibition sustained by subscriptions, fees, and donations. It met with criticism. Manufacturers disapproved of making so freely available the very latest ideas to all and sundry. Speaking for them, young Matthew Boulton, son of the great Birmingham steam engine manufacturer, considered that "however much support he received from the male and female nobility his scheme would not be relished by the British manufacturer". Others objected to the working class being admitted to a "school for mechanics". One of Rumford's appointees was told that his plan "to instruct the lower classes in science must be dropped as quietly as possible" and that if he persisted he would "become a marked man". Nevertheless the Royal Institution took root and grew.

As the author of this excellent and long awaited biography remarks "He was a planner looking with benevolence rather than pity upon his fellow creatures. His own religion was deistic and he was, in his own mind, something of a minor deity manipulating impersonally but to their advantage the affairs of the unfortunate poor." His work in Munich led him to consider the idea of "an Institution for introducing and bringing forward into general use, new inventions and improvements, particularly such as relate to the Management of Heat and the Saving of Fuel". It also showed him that science could effect a revolution in human living. When in the corridors of power, Lords Snow and Bowden are casting about for illustrative material for one of their homilies, they might well have recourse to Dr Sparrow's engaging and sympathetic portrait.

W. H. G. ARMYTAGE

JOHN BRIERLEY (ed.), *Science in its Context* (Heinemann, London 1964, pp. vii + 372, 30s.).

THE sub-title of this book is *A Symposium with special reference to sixth-form studies*. It has been "produced primarily to help teachers with those courses in science that sometimes form part of 'minority time'". Dr Brierley in his *Introduction* hopes that the book will also be useful for non-

specialist courses in technical colleges, training colleges and the new universities, as well as supplying background material for specialists.

There are twenty-four contributions to the symposium, not mentioning a foreword by Sir Howard Florey. They are in five groups under the headings General Studies in Schools, The Methods and Philosophy of Science, Science and Religion, The History of Science, Topics. The last group includes chapters on Astronomy, Radioactivity, Behaviour, Conservation of Resources—this list is not complete—and is a mixed bag.

In the first group Lord James of Rusholme writes on Science and General Education; four headmasters and two headmistresses describe general studies at their respective schools. Lord James looks at the three-fold nature of science, factual knowledge, method and social influence, decides that a fruitful synthesis of the three elements is possible only at the sixth-form stage and is modest in the demands he would make on the minority time of non-specialist sixth-form pupils. He thinks three periods a week about right and would use them for the study of topics relevant to the pupils' experience or chosen because they involve questions of moral or social interest.

Sir Desmond Lee describes the "ladders" at Winchester: the A ladder studies classics; the B ladder takes modern studies; the C ladder mathematics and science. A boy in the senior division of the A ladder will devote fourteen to sixteen periods to classics and ancient history, about twelve taught periods to divinity, English, a modern language, modern history and science and the rest to private study. On the B ladder, where the course combines history and modern languages, the division between specialist and minority time is more fluid; the boys take a common core of subjects which consists of history, French, English and divinity. On the C ladder pupils devote about seventeen periods to science and mathematics and six periods to divinity, history and English. In addition they study a modern language and write fortnightly English essays. Available to all ladders are special English sets and a course in politics and economics.

This is rich fare indeed and many schools will envy the alternatives available. The science course for non-scientists is arranged in units of one term, the units being of two kinds, one historical and the other "key-themes" as described in the S.M.A. pamphlet, *Science in Sixth Form General Education*. Sir Desmond's account is of great interest but surely he means astronomy and not astrology on p. 31.

Coming nearer home Mr Wood, the headmaster of West Bromwich Grammar School, gives his account. A double period a week is set apart for science taken by both science sixth and arts sixth. Six members of staff take part and the work is divided into three main sections: The Nature of Scientific Thought; Science, Religion and Philosophy; The Action of Science on Society in the last hundred Years.

The reviewer has mentioned two out of six of the accounts; only lack of space precludes description of the others.

The rest of the book is variable in quality. Professor Newth of the Middlesex Hospital Medical School writes rather arrogantly about scientific method and dismisses "revealed religion, the method of art and the cement of many valued human relationships" as being based on illusions. "The scientific attitude", he holds, "can only be adopted by those who are sufficiently grown up to live without illusion." Such polarised views should be presented to sixth-formers, if at all, in a philosophical context, broad enough for other viewpoints to be seen. Some sort of corrective is supplied by Dr Harré in his chapter on the philosophy of science in which he says, "we are, I hope, free from the horrid fallacy that contemporary science is ultimate truth". Dr Harré holds that "scientific culture flowers most elegantly" in the writings of the men of science responsible for the great advances and warns his readers against trying to introduce "a great slab of 'background'".

In the short section on Science and Religion Professor D. M. MacKay writes as a theist and Dr Margaret Knight as a non-theist. Both make interesting contributions. Professor MacKay's arguments are likely to be less familiar than Dr Knight's; they are also in the reviewer's opinion more penetrating.

The four essays on the history of science are condensed but clearly written. They will be of most use to those who already know a good deal about the subject. Such compressed accounts are not suitable for beginners who should follow the advice of Dr Harré mentioned above. (W. F. Magie's *A Source Book in Physics* quoted in one of the short reading lists is an excellent source of original material.) While these essays are written with authority and are worth their place in a symposium of this kind their authors, I am sure, would wish them to be regarded as outlines so drawn as to invite the filling in of form and colour.

Dr Brierley has done a useful service in compiling and editing this book. Apart from its main text, its reading lists and appendices will be useful to teachers and lecturers. It can be dipped into with pleasure or, better, used as a spring of ideas leading to further study and improved practice. The emphasis it puts on ideas and method, whether by accident or design, is highly important at a time when there are constant and often justified complaints against the sheer weight of facts we impose on our sixth-formers.

W. J. SPARROW

T. A. DOREY and ALLISON LEON, *The Norman Kings: A Medieval Latin Reader* (Kenneth Mason, 1964, 15s.).

THE classical scholar who ventures into Medieval Latin is astonished at the vast range and amount of the material, at the literary ability of the authors and at the compelling interest of much of the content of the works. Unfortunately, there is a dearth of suitable texts available to the classics teacher for use in the school Latin course. The appearance of *The Norman Kings* is, therefore, very welcome as it groups extracts from William of

Malmesbury, Henry of Huntingdon, William of Jumièges, William of Poitiers and six other twelfth-century historians and presents material which has hitherto been largely inaccessible outside specialist libraries. Although some of the passages would have benefited from being broken up under sub-headings and a somewhat greater use might have been made of explanatory footnotes, the book will be found very useful by classics and history teachers at both school and university levels. S. M.

Alive on Men's Lips: An Anthology of Rome and the Latin Language in the Life of Twenty Centuries, chosen by Dora Pym and Nancy Silver (Centaur Books, 1964, 12s. 6d.).

THIS excellent anthology, first printed in 1952 and out of print for some time, makes a welcome reappearance. It ranges from Ennius and the Golden Age through Medieval, Renaissance Latin and the great Latin writers of the seventeenth century (including Milton and Newton) to our own times—Papal Encyclical Letter, Latin poem on the Minister of Power, 1947, address by the Depute Orator of Cambridge, etc. The Latin selections are bound together by a perceptive and stimulating commentary. S. M.

Locke's thoughts concerning Education, abridged and edited by F. W. Garforth (Heinemann, 1964, 15s.).

THIS book consists of an introduction by the editor, dealing with Locke's life, writings and philosophy, and selections from *Some thoughts concerning Education* amounting to three-quarters of the original, together with passages from *Of the conduct of the understanding*. The selections from *Some thoughts* are grouped thematically and are prefaced by expository and critical remarks which discuss, in a concise but stimulating way, the relevance of Locke's ideas for educational theory and practice to-day. But the editor's remarks are suggestive rather than dogmatic and Locke's words are left to speak for themselves. Well prepared and well presented, this volume is to be commended, especially for the use of students in training. S. M.

ROBERT FLACELIÈRE, *A literary history of Greece*, translated by Douglas Garman (Elek Books, 1964, 42s.).

HOWEVER much one deplores a student's use of a literary history as a substitute for a reading of original works, it is undeniable that literary histories are necessary as works of reference, as maps to literary territory and as transmitters of established values against which the student may test his own reactions. This book by the principal of the École Normale Supérieure adequately fulfils these three functions. Writers are grouped and treated in relation to their historical, political and cultural background

—from Homer to Plotinus. The illustrations are excellent, though sparse; the bibliography of mainly French and English sources is up-to-date. The English translation is readable. A very suitable book for sixth-formers and junior undergraduates. S. M.

SHIPP and ADAMS, *Developing Arithmetic Concepts and Skills* (Prentice Hall, 1964).

IN writing this book for American elementary school teachers the authors have combined method with content. The result is a lucid presentation of arithmetic teaching of a traditional syllabus with the addition of a sound exposition of modern uses of sets and number scales to show structures underlying arithmetical concepts.

Teachers in Britain who are in the vanguard of the modern revolution in the teaching of mathematics in the primary schools will find content of the syllabus very limited and methods of teaching old fashioned, with the exception of the uses of sets and number scales to increase understanding in arithmetic. Although the authors outline changes in needs for arithmetic and mathematics through the ages they stop short of the present day. Consequently they are content that children's time should be spent entirely on arithmetic which will later be done by calculating machines and fail to suggest the introduction of a wider variety of mathematical concepts though these will be needed.

The psychology of learning they introduce is simple, suitably applied but limited in scope. Again they appear to be unaware of the more recent developments. They fail, for example, to mention the extensive and very relevant work of Piaget.

Possibly they hesitate to suggest more radical changes since they say that fifty per cent of the teachers have an active dislike of arithmetic while only ten per cent like it. But in Britain where wider content and more active methods have been introduced new enthusiasm for mathematics has resulted among primary school teachers.

R. BEARD

MARIA MONTESSORI, *Spontaneous Activity in Education* (The Advanced Montessori Method, Volume I, Robert Bentley, Inc., pp. 355, \$6.50); *The Montessori Elementary Material* (The Advanced Montessori Method, Volume II, pp. 464, \$8.50).

THESE books have been reissued after being out of print for forty-seven years. In Volume I "A Survey of Modern Education" is not only of historical interest. Montessori's appreciation of the needs of children emerges during trenchant criticism of contemporary attitudes, theories and methods. To those familiar with her strong opposition to punishment and her emphasis on learning through interested activity it will, however, be surprising to read of advice to teachers on discipline. This is defined

as the point of departure without which all education would be impossible: if it cannot be secured by love then force is necessary.

Discussing research during the early part of the century which, she thought, solved nothing but gave rise to many unresolved difficulties, the main problem posed was that of "offering the child the necessary nourishment". The teacher should, therefore, organise the child's environment, using didactic material and approaches recommended to promote free development. At some point this self-correcting apparatus enables the child "to make a series of careful and logical comparisons which represent a veritable spontaneous acquisition of 'knowledge'".

Modern education of young children departs from this theory and encourages discovery through the choice of a variety of situations, many not teacher-determined, and through play with many materials.

There is a lengthy discussion of imagination, the true basis of which is considered to be reality. Children should be encouraged "to perceive the things in their environment exactly, in order to secure for them the material required by the imagination". There is opposition, consequently, to fairy tales and fantasy. While there is recognition in her philosophy of creative work which is in addition to that linked with the observation of material reality, Montessori's emphasis is such that there is justification in the criticism that her approach did not sufficiently provide for the stimulation of imagination.

More than a third of Volume II is devoted to the teaching of grammar. This is a translation from the Italian original but, as the translator tells us, there are differences in the syntax of parts of speech in the two languages so that, whatever the intrinsic merits of the material, much of it is inapplicable to the teaching of English grammar. Although some ingenious aids were developed it is extremely unlikely that this elaborate outline, which included analysis, was much used in primary schools in this country. The value of this lengthy section was, in any event, not enhanced by the inclusion of many examples in Italian.

Chapters on arithmetic and geometry are of considerable interest. In addition to a description of various pieces of didactic apparatus used in the teaching of fractions and geometry, there is an outline of a system of teaching arithmetic by the use of beads on wires, colours being used in association with numbers.

Not only did Montessori spend much time working with children and studying them closely: she also made a critical evaluation of research, psychology and teaching methods. What is of great value two generations later is not so much a series of teaching devices or techniques, many of which are no longer in use, but her emphasis on a deeper understanding of the needs of children and the importance of considering each child as an individual.

It is very difficult to accept the publisher's view that these books are of "practical help to elementary school teachers and parents everywhere".

They will undoubtedly be of interest for reference purposes. Many students, however, would no doubt appreciate the publication of a selection of Montessori's writings together with a critical discussion of her views.

M. STANTON

DOROTHY E. MAY, *Children in the Nursery School* (London U.P., 1963, pp. 192, 15s.).

MATERIAL for this book was collected during studies of nursery school children carried out in the 1930s, supplemented by studies in a second nursery school from 1948 to 1957. The purpose of the investigation was to discover a way of approach to one or two main behaviour problems through an appreciation of the significance of social development as an aspect of personal adjustment and, in so doing, possibly indicate approaches to other problems.

Throughout the author shows a deep understanding of and respect for the child's individuality. There is frequent emphasis on the need to appreciate the child's view of the world, implying the ability to interpret his concepts of reality in the context of his development.

More than one-third of the book consists of detailed recordings or descriptions of individual children's behaviour. While many incidents reported provide the basis for views and conclusions presented some use could have been made of tables summarising main forms of behaviour under consideration. There is no indication of frequency of observation of each child or whether each child was observed for the same length of time. Records were made of children's social contacts, of individual and group hostility, of friendliness and co-operation and of individual and group relationships during play. Sociometric illustrations are, unfortunately, not used.

Children in both schools came from poor homes: fathers of most of those in the first study were unskilled. The relevance of this background is insufficiently stressed. A number of investigations have shown that cultural and environmental influences may make for a greater incidence of some problems among different social groups or in different kinds of homes. There could usefully have been reference to studies of child-rearing practices and researches into problems of early childhood, a number of which indicate the probable effects on behaviour and personality of influences in early childhood.

There is a good deal of reliance on the work of Susan Isaacs but few other references are quoted. The bibliography is consequently very brief.

The Freudian view of play in which the child loses and then finds objects is accepted. This kind of play is interpreted as an activity which enables the child to become reconciled to the loss of his mother when he is left at the nursery. Support for this view, that often a child after refusing other toys accepts one into which small bricks could be posted,

is quite unconvincing. Observation of children at the pre-school stage before they have been separated from their mothers shows that they are frequently intrigued by situations in which objects are hidden and then found again.

This book will assist practising teachers in understanding the nature of behaviour problems in young children largely because of the approach presented and the avoidance of generalised solutions. M. STANTON

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INSTITUTE OF EDUCATION
UNIVERSITY OF BIRMINGHAM

EDUCATIONAL REVIEW

Editors

E. A. PEEL, M.A., D.LIT., H. J. Hallworth, M.A., A. M. Wilkinson, M.A., PH.D.

The *Educational Review* is issued three times a year on dates at the beginning of University and school terms—early November, February and June. Each part will consist of approximately 80 pages medium 8vo, $8\frac{3}{4}'' \times 5\frac{5}{8}''$ in size.

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INTELLECTUAL GROWTH DURING ADOLESCENCE*

by E. A. PEEL

Professor of Education, University of Birmingham

I ADOLESCENT THINKING

IN every respect but one the adolescent has received unstinted attention concerning his development and its so-called problems. Furthermore he appears to thrive on it. Almost monthly he creates new values in a subculture which grows more self-determined and self-defined. The peripheral signs of this subculture, as seen in its sound and beat and clothes, assume an ascendancy that reaches into adult values. When I was young it was the late adolescent, nay the young adult, who gave the sartorial lead both to his juniors and seniors. But now it is the mid-adolescent who exercises such an influence on his elders. I'm not sure he always wishes it so—though what he wishes is often difficult to determine for his is a jealously guarded culture. It does not do for the adult to be a square but it is equally unwise to try to be too expert.

In their preoccupation with how he feels, plays, herds and adorns himself very few people have studied his intellectual growth systematically. This is not to say that educationists are insensitive to the problem. The central theme of the Newsom report is the intellectual difference between primary and secondary school experience. The difference is more than a matter of attainment. There is a change of quality as well. Such nouns as *self-awareness*, *imagination*, *judgement*, *insight* crop up throughout the report. We are told that

The work in a secondary school becomes secondary in character whenever it is concerned, first, with selfconscious thought and judgment; secondly, with the relation of school and the work done there to the world outside of which the pupils form a part and of which they are increasingly aware.

and that

the quality of selfconscious judgment . . . describes a mental

* Being the substance of the 1965 Bartholomew Lecture—University of Keele.

process that involves the use of reason and imagination to bring order into the world of things perceived.

Awareness, however, is not explanation.

There may be several reasons for this lack of information about adolescent thinking. On the surface young children's thinking changes more dramatically and is capable of examination by simpler material. There is also a widespread belief that by mid-adolescence, thinking is more a function of the particular school subject—say science, mathematics or history—than of more general thought processes and psychological changes. But thinking is an interaction between pupil and subject and the adolescent has not ceased to be a pupil.

In this neglect we tend to forget that there are many formative years between 11 and 20. The intellectual changes are indeed both complex and significant. Any problem in a school subject, provided it is not too technically difficult to be given to a wide age range of pupils, will bring out these qualities of the change. Here are a few.

Suppose there are 32 entrants to a knock-out championship in table tennis. How many games must be played to find the winner? What if there are 24, 17? Is there a general rule? Can you prove it?

Most lower and mid secondary school pupils can produce the general induction—but only sixth formers, and not all of them, are able to prove the rule deductively from the essential structure of the problem—one winner and each losing individual being immediately eliminated.

Again if we give pupils a new number system, say to base 6 or 7, to learn and use, we find younger adolescents can learn the number system and use it by simple correlation of new symbols with decimal symbols, translation and retranslation, without ever giving a hint that the change of base is understood. Older pupils and students set about it quite differently by setting up possible rules, trying them out and accepting, modifying or rejecting as appropriate. In exercises they also give evidence of thinking in the novel system.

If you put colourless liquid samples of dilute acid, dilute alkali and pure water before a pupil and supply him with specimens of blue and red litmus paper after having shown him the reactions between the chemicals and indicator and then ask him to identify the three liquids you will find a failure before thirteen to act purposefully according to hypotheses. The power to eliminate alternatives appears later.

Lastly, turning to social studies, if we ask pupils to define such terms as *laws* (1), we are likely up to 13, to get such answers as *rules which should be obeyed*, *rules made for the good of the country* to 15 or 16 and a *system of rule imposed upon society in order to promote a freedom for the individual without encroaching on each other's freedom* from the most mature at 19.

These are pointers to what we may look for and how we may do it. Clearly the method of study requires a *guided* taxonomy, in which emphasis is laid on observing developmental changes as well as differences arising from learning various school subjects, followed by a more etiological analysis.

Our questions are

- (i) what is changing during adolescence?
- (ii) what is common, what different in the modes of thinking required in different subjects?

I shall be concerned mainly with the former.

The method of experiment is to use simple contrived situations, purified from school problems or nearly similar. The material shall not demand too high a level of subject matter knowledge but is designed at producing a problem situation testing thinking rather than attainment.

2. DESCRIPTION AND EXPLANATION

What are the lines to guide our empirical studies? Over the period of adolescence the most fundamental is that between what I call describer and explainer thinking. Description, as I am using the term entails no more than a relating of the parts of a phenomenon with each other. Explanation involves referring the phenomenon to other previously experienced phenomena, and to generalisations and concepts independently formed. The familiar experiment from elementary physics of causing a tin to collapse by boiling a little water in it, stoppering it and immediately cooling it, illustrates well what I mean. A pupil may describe this sequence of events very adequately but he has not explained it unless he refers to the function of the steam in driving out the air, the subsequent cooling to condense the steam to produce a vacuum and the final collapse under atmospheric pressure. Here the concepts of boiling, gaseous state, condensation, vacuum and atmospheric pressure and strengths of material are all involved.

As in the case of the learners of the 6 base number system, who were able to apply their knowledge to simple tasks without understanding the base of the system, so the describer of the above phenomenon may well be able to predict what might happen in similar instances, but his power of prediction will be far more limited than that of the thinker who can explain the phenomenon. The latter would be able to predict outcomes in superficially quite different situations as, for example, to explain various physical and physiological phenomenon associated with going high into the atmosphere or deep into the sea.

Analogy clearly lies at the basis of explanation but there is a spectrum of predictive effectiveness ranging from the powerful models of physics at one extreme (2) to the tempting analogies at the other which so often ensnare the politicians and historians. The 100 days analogy was long used against the intentions of its originator (3).

It is doubtful how far pure description is possible, that is, without any hint of explanation. We use the word *collapse* to account for the change in the shape of the tin. This implies analogy and explanation, which nevertheless are not very useful without the idea of air pressure.

If however we concede the point that pure description is at one end of an explanatory dimension, it would not invalidate the scheme of analysis to be outlined. The range of thought is wide during adolescent growth. The concession however does bear on naive "positivistic assumptions in practical science and on the 'unique event' theory of history teaching. According to it both would tend to be untenable.

3. THE IMAGINATION OF POSSIBLE EXPLANATIONS

The growth of explanatory thought involves several changes very noticeable in mid- and late adolescence. Let us look at three of them. First there is the growth from partial and circumstantial observations to comprehensive judgments involving the imagination and invocation of possibilities to explain the phenomenon.

We may set a short anecdote with questions.

Only brave pilots are allowed to fly over high mountains. This summer a fighter pilot flying over the Alps collided with an aerial cable-way, and cut a main cable causing some cars to fall to the glacier below. Several people were killed and many others had to spend the night suspended above the glacier.

(1) Was the pilot a careful airman? (2) Why do you think so? The questions evoke answers at four clearly marked levels:

1. Not sure. Maybe, invoking or imagining extenuating possibilities, vision, weather, state of the plane.
2. No, because if he was careful, he would not have cut the cable.
3. No, because he hit the cable, etc.
4. Yes or No, with irrelevant comment or denial of the premise.
E.g. Yes, he was brave; Yes, the cable shouldn't be there.

The ages associated with these levels are respectively $13\frac{1}{2}$, $12\frac{1}{2}$, 12, and $10\frac{1}{2}$.

When instead of the above questions we posed the wholly non-directive question of:

What do you think about the happening in the story? We compel the child to identify his own problem and the replies indicate the level at which he is thinking.

At $14\frac{1}{2}$ we got:

He was either not informed of the mountain railway on his route or he was flying too low also his flying compass may have been affected by something before or after take-off this setting him off course causing collision with the cable.

At 12:

I think that the pilot was not very good at flying and also not fit for doing it. He would have been far better off if he went on with fighting.

and at $11\frac{1}{2}$:

The people must also be brave to stay the night suspended above the glacier. The pilot must be not only brave but a good driver.

From this and other test passages conducted with statistically respectable numbers, the genesis of the pupils' thinking-comprehension seems to proceed as follows:

First there is a capacity to think propositionally by pupils at least as young as 11-12. A proposition is produced linking that implied in the question with the salient feature of the story related circumstantially to the question. Other possibilities do not enter. To this extent the judgment is **partial and circumstantial** and is essentially descriptive since no outside concept is **invoked**.

followed next by

a transformation of this judgment by forming its complement with the addition of no new inferences from the material but a change of language form and emphasis. This phase appears at ages from a half year older than that associated with the first category answers.

followed finally by

recognition that there might have been other elements outside the pilot's control which made it not possible for him to see the cable etc. The answers at this stage shift to invoked explanations and suggestions to account for the incident. Their plausibility reveals that they have been related to the data of the problem. Chronological ages of 13+ and mental ages of 14+ years seem to be associated with this phase.

School subject matter confirms the appearance of *imagined* possibilities, comprehensively related to the data of the problem at 13+, but not frequently by younger pupils.

This was shown by Piaget and Inhelder (4) in their studies of pupils' understanding of fluid pressure and their discovery of Newton's First law. The invocation of imagined causes does not appear to be marked before 13+.

4. INDUCTION AND DEDUCTION

Description turns on inductive methods, whereas explanation involves deduction from a basis of hypotheses. The contrasting roles of induction and deduction in mathematics need no underlining—we saw it in the table tennis problem. But a similar opposition is apparent between induction and hypothetico-deduction in material situations involving empirical data—such as those of science and geography. The successful use of imagined hypotheses to explain phenomena always contains a deductive element in the comparison of hypotheses with data to arrive at solutions or for the generalisations seen in so-called "thought experiments" in physics (5).

When does the adolescent begin to show signs of using hypothetico-deductive methods spontaneously?

Here is an experiment aimed at obtaining an answer to this question.

The problem concerned crofter-farming in the Isle of Lewis. No text was used but two maps showed the essential geographical features: mountains, deer forest, rough grazing, common pasture and croft

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areas and emphasised the generally poor nature of the land. Charts showed the proportion of crops and grass (good land) to common pasture (poor, ill-drained, rock strewn land), the composition of the crops and grass (grass, oats and potatoes) and the proportion of sheep (many) and cattle (few). Monthly rainfall and temperature charts were also provided (6).

The central problem for the farmer lies in the natural restrictions placed on him by the poor quality of land and climate, even though there is plenty of land available. Only a minimum degree of geographical expertise is required that is not evident from the maps and charts, namely that sheep will graze on rough land but cattle not.

Rhys then asked the question:

Are they making sensible use of their land by only growing a few crops on a very small area?

This may arouse a conflict between (i) the visual evidence of the large amount of land apparently available and the large number of sheep and (ii) the nature of the land and climate leading to a deductive process to arrive at a conclusion. Here are two answers, the first characteristic of 11-12 year olds:

Yes. Because they only live in a small place and they only need a small number of crops. The rest of the land has to be kept to feed the animals.

and the second characteristic of older pupils of age $14\frac{1}{2}+$:

The crofters are sensible in growing only a few crops over a little area because the ground is mainly mountains and very rough. It would be hard to get the necessary amount of crops needed to feed the crofters, the only crops which they have cultivated with a little success are the hardier, tougher crops, oats and potatoes. The land can be made of better use by rough grazing with sheep on the hills and mountains.

The first shows some deduction but solely in terms of area of land and numbers of sheep. The second starts from the quality of the land and deduces consequences which relate to the area and number features.

5. ELIMINATING ALTERNATIVES

The testing of hypotheses and the elimination of those less effective make up severe tests of adolescent and adult thinking. People are usually too ready to infer a particular belief from evidence which

would also support another. In one test (7) students had to find the *concept of three numbers in increasing order* by putting up sets of three numbers for judgment by the experimenter, who of course knew the concept. The most frequent responses were positive instances enumerated to illustrate the concept chosen. Relatively few sets were chosen to eliminate alternative concepts, and also few negative instances deliberately chosen to test the assumed concept.

Wason concluded: very few intelligent young adults spontaneously test their beliefs in a situation which does not appear to be of a "scientific" nature.

These results found support from a research (8) on student nurses' ideas of correlation. They were presented with packs of cards, each card of which described a patient by giving a relationship between a *symptom* and a *diagnosis*. Suppose the symptom was spots on the chest and the diagnosis measles. Four types of card are possible:

- Presence of spots (positive)—diagnosis of measles (positive)
- Presence of spots (positive)—measles *not* diagnosed (negative)
- Absence of spots (negative)—diagnosis of measles (positive)
- Absence of spots (negative)—measles *not* diagnosed (negative)

They thumbed through the packs and were asked to judge to what extent each pack revealed a correlation between symptom and diagnosis. The worker concluded that

Their strategies and inferences reveal a particularistic, non-statistical approach, or an exclusive dependence on the frequency of ++ instances.

When secondary school pupils are given simple chemical experiments requiring the identification of substances and the elimination of alternative possibilities, they are rarely capable spontaneously of successful elimination procedures until they are 14, 15 and older.

What are the main features of intellectual growth between eleven and twenty?

In the growth from a largely descriptive type of thinking to explanation we see a change from particularistic, perceptual, circumstantial and largely inductive ways of thinking to modes of thought revealing the invocation of imagined possibilities which gradually become more articulate in form to warrant the use of the terms hypotheses and propositions. This articulateness is shown in the increased use of deduction and in the power to eliminate unsupported alternatives.

6. THE ETIOLOGY OF CHANGES IN THINKING

The generalisations about the ages at which significant changes take place are of course statistical and assume fairly normal conditions of schooling and intelligence. I have deliberately avoided any reference to the influence of schooling and instruction. We need, however, to raise these questions when we turn now to the etiology of the changes.

The factors which enter into the changes we have described are *maturation, experience, communication and instruction* and the urge in every individual *to come to intellectual terms* with his environment.

We may pass over maturation fairly quickly. If cognitive maturation means anything it must reflect neurological maturation. We know little about the latter after the first few years of life. But we know nothing about maturation during adolescence—it is likely that there is little neurological maturation over this period. Lastly, the statement that development is maturation is largely unfalsifiable, particularly over later years, as during adolescence.

Turning to the role of experience there appear to be two aspects which count for much in the child's intellectual development. First there is physical experience which "consists of acting upon objects and drawing some knowledge about the objects by abstraction from the objects" (9). This is concept formation, the kind of experience that everyone recognises and uses to shape his behaviour. But there is also another kind of experience where knowledge is drawn from the *actions* effected by the persons. This knowledge consists of the discovery of the properties of the set of actions used by the person in abstracting from and ordering the physical phenomena of his environment and constitutes "logico-mathematical experience". The laws of mathematical operations, associativity and commutativity and the like, are examples, as are those of the logical structure of classes, relations and propositions.

We have then two fundamental kinds of experience leading to recognition of the properties (a) of objects and material, and (b) of the actions carried out on the objects.

The two experiences develop hand in hand and attempts to teach a person to carry out certain abstractions about his environment will be fruitless unless he possesses also the related "structure of action". The growth of thinking, in fact, consists of the movement from structure of prior and lower order to those at a higher plane.

The third factor concerns formal and informal teaching by the

use of language. It is fundamental and necessary and is very powerful in adolescence, when language is well developed, but like the other elements not by itself sufficient. As will be appreciated from the comments of the previous paragraphs the child can receive real information by such means "only if he is in a state where he can understand this information". The state requires that the new information is presented in a form demanding not more than the structure of action which the child has already formed. The child will make of the information what he can by virtue of his particular level of development—but this may not be what the adult intends. Hence the so-called discrepancy between language and thought.

The urge to come to intellectual terms with one's world provides the mainspring of intellectual development. It involves the child in a combined process of assimilation of and accommodation to the material world and his fellow creatures.

In the act of knowing the person is faced with a need to resolve a discrepancy basically between him and his environment which constitutes to him an external disturbance. Consequently he seeks equilibrium by active resolution and compensation. The most obvious and general action of this kind in adolescence is the need for and the process of explanation. When a person explains a phenomena he effects an equilibrium. Such an equilibrium is not stable in that better explanations may be forthcoming with more knowledge etc., but explanation is far more stable than description, which is relatively unstable tending to pass into explanation. Description, as I have defined it, does not relate an event or phenomenon to the wider context of knowledge. The equilibrium of description will always lead to that of explanation.

The above refers to equilibrium between person and environment, but the process of finding equilibrium also refers to parts within the phenomenon. All natural and contrived situations involve the idea of equilibrium—disequilibrium. Behind this interaction there are the ideas of cancelling an operation or a state and compensating for such a change to re-establish equilibria.

The principle is seen operating in all the dynamic problems in science as in heat-energy change, and the law of moments. The geographical environment is in a continuously changing state of dynamic equilibrium where forces of climate, terrain, organic life and the intervention of men are constantly operating on each other.

When we give problems from geography in which the balance of nature is upset by farming, mining and building we find that an

awareness of equilibrium as a combination of cancellation and compensation is only fully apparent in the mid and late adolescent. The same is true of his understanding of history. Most events in history seen in treaties, declarations of war, concessions to groups, etc., contain the same principles of balance. Such material may be used to test thinking (10) as I did by using extracts from medieval European history. Often a balanced judgment is not forthcoming until 14-15 years of age.

But our world does not only consist of equilibria and disequilibria patterns. There is both balance and change. Changes with time are important. The human adapts himself to these changes by a *sensitivity to sequential phenomena*. This shows itself in two types of concepts which are complementary to each other (a) those of no change, of conservation and invariance seen in the invariants of physics: matter, weight, momentum . . . , mass energy . . . , nuclear properties, and (b) those of directional changes: order-chaos, development-degeneration, integration-disintegration, cause-effect.

The former have been well investigated but some of the latter particularly of order-disorder as seen in thermo-dynamic changes have yet to be investigated in the adolescent range of thinking.

If the idea of structure of thought finds its origin in the equilibria of the physical world of science, of the geographical environment, and of men's interactions as in history and the social sciences, the idea of sequential and temporal order springs from the change of phenomena with time.

I could hardly conclude this discussion of adolescent thinking and its investigation without saying something about its implications for education. This must have been apparent at several places. The main change in adolescent thinking is the use of imagined explanations, carrying with it the capacity to manipulate and eliminate possibilities and is to some extent educable. I gave a similar test to the Pilot passage to two groups of eleven-year-olds, matched for conventional intelligence. One of the groups came from middle class academic homes where ideas would be tossed about, the other from working class homes. The first group was markedly superior in ideas and their manipulation.

But although teaching aids intellectual growth its effect is limited as we saw when we looked at the etiology of the process. The pupil and student can only take what he is ready for. If he is given too advanced material he'll make of it what he can. The key to progress is in insuring that he has had the two kinds of experience

required, that is, of the properties of his environment, constructed by him, and of the properties of his actions, seen in mathematics and logic, used to define the material properties. These two go hand in glove, mathematics and logic need to be based on material experience but they then become necessities for further progress. Mathematics is often not well taught and symbolic logic scarcely at all in secondary schools. Just as mathematics forms the cognitive structure of science thinking so logic provides the structure of the humanities and the language subjects. A lot can be done by giving language teaching a new look and by teaching all pupils and students some logic, not necessarily over-symbolic but linked with use.

What we hope ensues from learning mathematics, physics or history, or any other subject is not merely data collection but the power to think in the way inherent in these disciplines, so that long later, although particular theorems, laws or changes are half or almost wholly forgotten, they can be resuscitated and used in the proper manner and the new circumstance, and fresh information and problems can be dealt with constructively. This is learning to think.

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PHILOSOPHY OF EDUCATION AND THE TRAINING OF TEACHERS

by WILLIAM H. SQUIRE and SIDNEY MORRIS

THE aims of this article are to examine briefly the present role and position of philosophy of education in teacher training and to put forward some tentative suggestions for developing work in this field in Training Colleges and University Departments of Education.

I. SOME NOTES ON PRESENT PRACTICE

by WILLIAM H. SQUIRE (1)

The first thing that is likely to strike the attention of an inquirer is that not more than six, out of two hundred and eight training institutions surveyed in England and Wales, offer courses which include in their titles the words "Philosophy of Education". When such institutions consider educational theory, as, without exception, they do, it is usually by means of courses called "Principles of Education", "Theories of Education", "Educational Ideas", or "Education", *tout court*. A professor of Education strikes a keynote in modest disclaimers: "Philosophy seems a somewhat portentous term for anything we attempt to achieve in this department", and these words recall the conspicuous scarcity of professional philosophers engaged in training teachers or, for that matter, even theoretically interesting themselves in education.

It is clear, nevertheless, that many "Principles of Education" courses are intended to include reference to philosophy and it is equally clear that the degree of emphasis on philosophy varies enormously. A course entitled "Principles of Education" may be found to concern itself exclusively with Plato's *Republic* at the rate of one lecture a week throughout the year; another "takes as close a look as time permits at Plato and Rousseau", a third may be entitled "A Background to Twentieth Century Education" as a result of an amalgamation of an Educational Thought course with one on the history of Educational Systems; the emphasis may be on history,

philosophy, sociology or, possibly, on inclusiveness: "So far as philosophy of education is concerned, we include a study of selected Great Educators from Plato to the present day, and in addition such topics as the nature and scope of education; the aims of education; curriculum; moral education, etc., . . . our course in philosophy is to some extent linked with both history and theory of education." A training college senior lecturer succinctly states: "Educational philosophy appears sporadically in the first two years of the course"; and a Principal makes the frank comment: "There has been no definite or disciplined effort to guide studies in philosophy of education in any way to anything that approaches a syllabus in this subject, other than spasmodic and casual references to it in General Education. This is an unfortunate situation." And perhaps more unfortunate than exceptional.

Those responsible for "Principles" courses are often, it is clear, primarily concerned with illuminating the practical problems of teaching. "All the time", says a departmental head, "we are asking 'What has this to do with you and your children in the classroom?'" There is also, noticeably, a tendency to "temper the wind to the shorn lamb": "The approach to the philosophy of education must be sufficiently close to the problems which the student can recognise as his own to ensure some effect on his practice", says a senior lecturer, while the Principal of a Welsh training college is prepared to be more categorical: "Only the best students take an interest in the philosophy of education *per se*, and can see its relevance to the practice of instruction. The rest seem to ask for nothing more than 'gimmicks' and 'tricks' of method that might be effective in the classroom situation. If these are not forthcoming, they tend to think that they are not getting what they came to college to receive."

A recognisable trend is exemplified in the remarks of a U.D.E. senior lecturer, referring to his own course: "In general, policy has been to move the emphasis from 'philosophy for all' to 'philosophy for the few who desire it'." That this policy is defensible, is demonstrated by a lecturer of another U.D.E. who says of his course: "This is clearly more a question of a survey of educational ideas than of philosophy of education. The course is deliberately of this kind since it is followed by all the Diploma students with a variety of academic backgrounds, most of whom seem to prefer to be able to associate the philosophy of education with the development of education." He adds: "The issues could all be raised merely by looking at Plato, but we find that many of the students can under-

stand the issues better against a twentieth-century background and their interest is more easily secured by the apparently more immediate relevance of the twentieth-century authors."

If the opinions so far quoted seem to represent philosophy of education as a topic to be approached, if approached at all, with caution and then, whenever possible, from an historical direction, they do not unduly distort the present situation as it is accepted by many, perhaps the majority, of teacher training establishments.

There is, however, further evidence to be considered, evidence, for instance, of a dynamic approach which is being adopted in places where, "Educational philosophy is treated as an activity, not as a body of knowledge", and where "The course is not one in which the philosophy of education will be 'mugged up' as a subject, nor will students be encouraged to 'mug up' Plato or Rousseau or any-body else in the hope that they can be 'applied' to the methods of learning or the building of a curriculum. Principles and values cannot be 'applied' directly to the educational situation by anyone who has merely learned them as second-hand rules. Situations are transformed by *persons* who embody in their own attitudes and beliefs the principles by which they would teach and values they would impart. If they are to stand up to the rough usage they will get in practice, these principles and values need to be carefully examined and tested in argument and discussion by the persons who hold them."

There is much here in common with the view associated with Peters and Hirst in this country and with others in the United States, a view likely to be pivotal in any swing towards a coherent, rigorously examined attitude to philosophy of education. This view includes recognition of an area of assembly of ideas to be designated educational theory and to which all the disciplines relevant to the solution of educational problems may contribute. Already one U.D.E. other than the London Institute of Education is prepared to describe its policy on philosophy of education as "in general agreement with Hirst's article" (2). What this means in practice, in Hirst's own Institute, is that philosophy of education is taught both for the Academic Diploma and in the Post-graduate Certificate Course (its title in the latter having been changed from "Principles of Education"). Educational problems are discussed from a strictly philosophical point of view, not so much seeking to answer them "at the level of 'practical' principles but seeking to cast light on the formulation of such principles, as far as philosophical techniques permit

it". Since "Principles" are "out", the necessary integrating influence for Post-graduate Certificate students is provided by a series of seminars on practical educational issues of the day, attended, together, by tutors from the philosophy of education, educational psychology and social aspects of education courses.

It may not, then, be too specious to distinguish two main trends in the teaching of philosophy of education at the moment; or, more accurately, on the one hand a situation which seems to have evolved without much piloting, and, on the other, a consciously departing movement. Of these manifestations the second is the more vigorous, with a vigour unprecedented in such history of philosophy of education as exists. Such a movement is to be welcomed if it leads to a fresh definition of philosophy of education and a re-examination of aims leading to the formulation of a generally acceptable rationale for the subject, whether as a discipline in its own right or as a contributor to a newly defined educational theory.

II. AIMS AND CONTENT OF COURSES IN PHILOSOPHY OF EDUCATION

by SIDNEY MORRIS

Lecturer in Education, University of Birmingham

Mr Squire has mentioned the shortage of educational philosophers as one of the contributory causes of the lack of philosophy of education courses in teacher training. Two other related causes seem to be of equal importance. First, unwillingness to divide educational theory into its four main fields—philosophy of education, educational psychology, sociology of education and history of education. In the training colleges all tend to be subsumed under the heading "Education"; in the University Departments of Education while educational psychology is treated on its own, philosophy of education, sociology and sometimes history of education are often treated under the heading "Principles of Education". Underneath this unwillingness may be seen the desire to emphasise the importance of interrelating the various branches of educational theory and the fear of confusing and time-wasting duplication. The supporters of differentiation, however, maintain that interrelation, coherence and clarity can best be obtained by means of a study of separate, well defined fields, provided that conscious efforts are made to bring the studies together at points throughout the course. It certainly might be argued

that, particularly in the case of non-specialist staff, a clearly defined subject is easier to handle than a less differentiated one; and from the student's point of view clearly demarcated branches of study seem easier to understand and relate than masses of mixed educational theory. But there is an intrinsic argument for differentiation. The four main branches of educational theory have their own approaches, procedures, terms and objectives. They differ in the sort of evidence and proof they accept as valid and in the kinds of statement and proposition they employ. In an undifferentiated course how are we to tackle such central problems as the relationship between teacher and pupil, the content of the curriculum, streaming v. non-streaming? Where do we begin? As soon as we demarcate our approach, the problems become simpler and, at the same time, fuller.

The second cause holding back the growth of philosophy of education is vagueness as to the meaning of the term "philosophy of education", lack of clarity and agreement as to its scope and function. This state of affairs is not surprising since it is only within the last decade that organised and systematic discussion of the relation between philosophy and education has taken place in Britain and advanced study and research have developed. O'Connor (3), Reid (4) and Hirst (5) have made notable contributions to the discussion (6). Hirst's definition is commanding growing support: "The term philosophy of education is perhaps best used to refer to the comprehensive contribution of distinctively philosophical methods of investigation to the discussion of problems that occur within educational theory" (7). And there is now growing agreement that the contribution of philosophy to education does not end with the application of philosophical analysis to educational problems but also includes the expertise that philosophy has developed in those branches of its study that are particularly relevant to education—epistemology, ethics and politics.

The analytical contribution, however, should not be underestimated. This is concerned with the different sorts and uses of language; with types of statement, proposition and proof. What is meant by "education"? What is an "educational problem"? What is an "educative process"? What are the possible meanings of such a statement as "Education strives to develop the maximum potential of the individual"? What is meant when a teacher describes a pupil: "He is a naughty, lazy child"? This activity might enable students to sort out the different types of thinking and language so often jumbled in educational theory, to avoid a good deal of woolly think-

ing and argument at cross purposes and to provide themselves with useful strategies for tackling theoretical problems.

Important as the contribution of analysis is, it is overshadowed by the substantive contribution of philosophy. Epistemology, the theory of knowledge, in relation to education would include a study of the different sorts of knowing involved in school subjects and could contribute to such discussions as that of "liberal" and "vocational" education, the desirability of an integrated curriculum, active and passive knowledge, etc. Politics might throw light on the principles underlying democratic systems as contrasted with dictatorial and autocratic systems, on the methods of controlling and influencing education and on the narrower relation between education and party politics. This study would illuminate problems of freedom, responsibility, participation and community and help towards an understanding of the nature of training for citizenship.

The central place, however, in philosophy of education is occupied by ethical problems. The treatment of social and personal values, involving consideration of value formation, change, coherence, definition and expression in value judgments has a direct and essential bearing on any discussion of "aims" in education. Such treatment is vital for any fruitful discussion of commitment and belief. Standards of behaviour and personal relationships considered in relation to current standards of society fall within this field. The rightness or wrongness of conditioning and the manipulation of the subconscious, equality in education, the Beatles v. Bach—all share the need for discussion grounded in ethical principles and none can be handled meaningfully and satisfactorily at a superficial level. Problems of freedom, authority, responsibility, discipline are, of course, primarily ethical problems.

The success of a study of philosophy of education in all its branches will largely depend on how it is taught, and the normal criterion applicable to the teaching of other knowledge and skills is relevant—suitability of topics, treatment and teaching methods to the experience, interests and ability of the students. If this approach is accepted, the view expressed by some educational philosophers that philosophy of education is a suitable study for only the most gifted students in their final year at training college would seem questionable. Training college students in their first year can tackle elementary analysis and are certainly ready for an introductory course dealing with ethical and political problems (8). This would lead in the second and third years to a more rigorous application to educa-

tional problems of techniques and expertise acquired in the first year of the course. The problems discussed need to be closely related to the experience and needs of the student at the different stages of his training and also to the work being done in the rest of the education course. But the general principle would be to work from the personal and the concrete to the more general and abstract; and this principle could apply to both the philosophy course as a whole and to the treatment of each topic.

In one year courses in Departments of Education the problem is easier because of the greater maturity and, often, academic ability of the students, more difficult because of the shortness of the course. This might make desirable a specific, and separate, treatment of philosophical methods at the beginning of the course. The subject-mindedness of University Departments of Education might require emphasis to be given to epistemology in connexion with school subjects; and to careful arrangements for bringing together the various strands of educational theory.

It is suggested that the undifferentiated approach to educational theory, and within it to Principles of Education, should give way to a differentiated approach which provides adequate opportunity for interrelation and synthesis; and that philosophy of education might be introduced at all levels of teacher training, playing a part at least equal to educational psychology, history, sociology and methodology. Though the supply of academically trained philosophers is limited in the foreseeable future, the provision of diploma courses in philosophy of education by University Departments of Education and the secondment of training college staff for this advanced, specialist training seem feasible lines of development within the next few years.

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VALUES: AN ESSAY TOWARDS CLARIFICATION

by F. W. GARFORTH

This article first indicates certain pitfalls and ambiguities in the meaning of "value"; it then describes some of the dominant features of values and their associated judgments—the centrality of choice, the implication of consequences, relativity, and the relation between fact and value. It concludes with some brief practical suggestions for the educator.

I. THE MEANING OF "VALUE"

THE importance in human experience of values and value judgments has long been recognised. The Greek pre-Socratic philosophers were aware of it; so were their contemporaries in other civilisations. In the fourth century B.C. Plato's *Republic* presents us with a choice between a society based on what he regards as permanent and unchanging values—the Forms of Goodness, Truth, Justice and the rest—and a society dedicated to the passing whims of self-gratification. Also in the *Republic*, but not only there, Plato sets before us the urgent reality of moral conflict, the choice between higher and lower desires, between one level of values and another. If one jumps two thousand years and turns from the rationalist to the empirical tradition in philosophy, one finds in John Locke the same awareness of the role of values in ordinary life. In the early chapters of *Some Thoughts concerning Education* he roundly condemns parents who condition their children in infancy to greed, vanity, violence and other undesirable qualities of character; in this way, he says, they "corrupt the principles of nature in their children and wonder afterwards to taste the bitter waters when they themselves have poisoned the fountain" (1).

However, there is no need to pursue the history of philosophy in order to demonstrate the importance of what we call values. Whether explicitly recognised or not, values have always operated with powerful effect both in societies and in the lives of individuals. They distinguish, for instance, the laconic, disciplined Spartan from the volatile, individualistic Athenian, feudalism from modern egalitarianism, the policy of profitability from that of social accountability (i.e. assessment in terms of community and quality of living).

Equally important is their part in the determination of individual character; for men and women become what they choose and commitment grows into character; conversely, from what a person is and does can be deduced the values by which he lives.

Yet it is far from obvious what values are or what we mean by the word. Like other words in common use among educationists—"education" itself, "freedom", "discipline" and the like—it contains ambiguities which it is usually more comfortable to overlook. Some clarification of meaning seems necessary, therefore, though to attempt a detailed analysis would be beyond the scope of this article. One is tempted to seek a definition of "value"; definitions can, indeed, be found, but on the whole they are unhelpful. For it is difficult to define without making assumptions, metaphysical or otherwise, which would be unwarranted; moreover, definition tends to enforce a particular pattern of usage as the norm, and this, though necessary in mathematics and the sciences, is dangerous in the context of values. It seems more profitable to indicate some of the ways in which the word is used and some of the pitfalls that endanger the use of it.

The word "value" is used to indicate that something has worth, that it is regarded as attracting choice or preference. Value is thus the property of being choiceworthy and it attaches to objects, like money, cars and books, to states of mind, like happiness or contentment, to modes of behaviour, like courtesy, kindness and loyalty, to moral qualities, like temperance and chastity, and to innumerable other items of human choice. In this sense of the word the subjective reference is clear; the worth or value is attached by a person to an object, an experience, an ideal; "value" means "being valued". But "value" is also used to indicate the object of choice itself—money, happiness, temperance and the rest; these *are* values, we say. Thus the word is transferred from the quality ("being valuable") to the object which possesses it.

There is little danger in this transference provided it is confined to more or less concrete objects like wealth and success, or experiences like pleasure and happiness; these are in a sense tangible, they exist, we know them directly. The danger arises—and this is the first pitfall—with such things as truth, freedom, beauty, goodness; for there is a strong inclination, not merely to form abstract nouns (which is both necessary and harmless) but to hypostatise these abstractions and endow them with an independent existence of their own. Thus, truth, freedom and goodness are elevated to the condition of Platonic Forms and assumed not only to exist but to possess a permanence

and immutability which makes them *absolute* values; in this way the concepts are rigidified and become impediments rather than helps to thought. This extended use of the word "value" carries with it the implication of objective existence, of an independence of time, place and circumstance which obscures the relativity of values, the fact that they belong to a human context which is social, historical, circumstantial. Absolute values will be mentioned again later; suffice it here to say that, for the present writer, values imply valuing, value *judgments*, and therefore persons, persons making choices; and persons, of course, imply society. There are no values without valuing, without mind and will to assess and choose.

Another pitfall is this: the word "value" can be used with either an empirical or a normative reference (or sometimes both at once), and often we fail to distinguish between them; more precisely, we assume a normative sense which, in the particular context of use, is inappropriate. Are values what we *do* pursue or what we *ought* to pursue? In British society tolerance is commonly regarded as a value; it is widely respected, though perhaps less widely practised, and distinguishes our own society from others past and present. This is an empirical fact which is open to observation. Equally open to observation is the fact that individuals regard this or that as choice-worthy: Mr X makes wealth the purpose of his life, while Mr Y devotes himself to the creative arts and, unless he is very lucky, to a life of poverty. All this can be expressed as factual or descriptive statements about British society or about Messrs X and Y. Whether we *ought* to practise tolerance, either as a general principle or on particular occasions, or whether Mr X *ought* to aim at enriching himself and Mr Y at aesthetic creation are entirely different questions. Our tendency, however, is to assume that because something is a value it ought to be pursued, as if the word carried automatically the sense of obligation—which it does not. A topical illustration can be taken from a recent controversy on sex and sin. It is an empirical fact that among Christians at least chastity is a virtue highly esteemed; the word describes a certain type of sexual behaviour which most Christians do practise. Moreover, there is no doubt that for members of the Christian Church it has also the normative sense of obligation. Outside the Christian Church it may or may not be fact that chastity is an accepted value—this is something which it would be very interesting to know and very difficult to discover. What does seem clear, however, is that chastity does not automatically carry its normative sense beyond the context of Christian belief; to assume that it

does is a mistake made by many who have written to the press on this subject.

There is a third ambiguity which deserves a brief notice. The word "value" is most often used of what is desirable—tolerance, happiness, freedom and so on. A wider and neutral use, however, applies it equally to what is desirable and undesirable, good and bad. Thus, hate, aggression, revenge, which are practised and commended by certain social groups and individuals, are also called values. Some prefer to call them "negative values" or "disvalues"; but this in a sense prejudices them, and it is safer and simpler, perhaps, to use "value" as a general term covering desirable and undesirable alike and where necessary to qualify it with the appropriate adjective.

Finally, there is the familiar distinction, which need not be elaborated, between end-value and means-value, between what is valuable as the goal of action and what is valuable only as instrumental to that goal. Failure to make the distinction is a not uncommon source of confusion in educational thought. For instance, many advocates of the comprehensive school, particularly those who are more politically motivated, argue for it as if it were desirable *per se*, a goal intrinsically choiceworthy; but schools are means, not ends, and their value is therefore not final but consists in their contribution to larger educational purposes.

2. THE NATURE OF VALUES

In addition to these ambiguities there are certain features of values and the judgments associated with them the consideration of which will lead to a clearer understanding of their role and importance in human life. Fundamental to the whole concept of value is the fact of choice, that human beings choose, prefer, commit themselves. This indeed is fundamental to life itself, a distinguishing feature it would seem, of the human species. The Hebrew writers of Genesis saw this with perspicuous insight and placed at the very outset of the human story a disastrous act of choice which entailed the "loss of Eden" and infected the whole of subsequent history. The theme of choice runs through the Bible—"I have set before thee life and death, the blessing and the curse; therefore choose life" (2); "And having found one pearl of great price, he went and sold all that he had and bought it" (3). It runs through literature—Aeneas torn between amorous dalliance and the destiny of Rome, Macbeth on the brink of the fatal precipice that plunged him to the murk of hell. In philosophy it has raised problems whose perplexity still baffles.

Values, as was stated earlier, imply valuing, choosing. "To us," writes Professor Mannheim, "values express themselves first in terms of choices by individuals" (4). This is not to say that the choice implied in values is always conscious and explicit, though often it is. Choice may become a matter of habit, woven into us as a kind of second nature by the repetition of single acts of choice or the imperceptible permeation of social conditioning. But if the operation of habit is obstructed or questioned, the element of choice immediately becomes apparent.

A second characteristic of values is this: they carry with them the implication of consequences, and this in two ways—a deductive implication by normal rules of inference and an implication of empirical consequences which, in the nature of things, can only be probable. In practice it may not be possible to separate them; and they may even conflict. Commitment to a particular value, "affluence" for example or "personal worth", carries by implication commitment to further values, and these again to others, so that a whole pattern of commitment is built up from the original value. If "affluence" is taken to mean a state of copious material goods, it seems to imply:

1. that material goods are intrinsically worth having;
2. that enjoyment of them is superior to other kinds of enjoyment;
3. that the acquisition of them is a primary human purpose;
4. that the possession of material goods is a principal criterion of the worth of individuals

—all of which are value decisions apparently consequent on commitment to affluence. Any such logical exercise should be preceded by a thorough analysis of the meaning of affluence; but the above may be adequate to illustrate what is intended. The same process of deduction can be applied to "personal worth", i.e. belief that the human person is uniquely and intrinsically valuable; from this too a pattern of values emerges which would, without much doubt, be found inconsistent with the previous.

The implication of practical consequences is different from this. Value decisions are made in a context of life and action, and they have results in the same context; this is common knowledge and common sense. If, in a certain situation of actual life, a value decision is made, what happens or is likely to happen? If in fact a society commits itself to affluence, or promiscuity, or apartheid, what happens to that society or what, in the light of our knowledge of history and human nature, do we think is likely to happen? This is partly an empirical

study, partly a matter of reasoned prediction from experience; it belongs to the sociologist and psychologist rather than the logician. It may be, of course, that the practical consequences are not those which the logical examination of values might suggest, but there is no surprise in this. For human nature is not bound by logical rules, and circumstances are apt to deflect decisions from the strict path of consistency.

Reference was made earlier to the danger of hypostatizing abstract nouns into substantial entities existing in their own right; hence comes the concept of "absolute" values, eternal and immutable like the Platonic Forms. In the introduction to the Norwood Report there occurs the following statement of belief:

. . . education cannot stop short of recognising the ideals of truth, beauty and goodness as final and binding for all times and in all places, as ultimate values . . . education from its own nature must be ultimately concerned with values which are independent of time or particular environment, though realisable under changing forms in both.

In a world of rapid change and moral uncertainty it is comforting, no doubt, to believe in "absolute" values like Truth, Beauty and Goodness; they give a sense of stability, of direction, like cairns in a mountain mist. But the more closely one examines them, the more are they apt to elude definition, indeed to evaporate altogether. It is very difficult to see what they could be.

On the contrary—and here is a third characteristic—it would seem that values are rooted in time and relative to circumstance. Some may find this suggestion disturbing; but to say that values are relative is not necessarily to reduce them to the status of a weathercock which turns with every gust of wind; nor to imply that they are merely subjective expressions of individual choice. There is a middle position between the subjectivism of A. J. Ayer's *Language, Truth and Logic* and the absolutism of Plato's Theory of Forms.

That some values, if not all, are relative to individuals, to societies and to circumstances is so obvious that it needs no demonstration. It is also obvious that some values have acquired an apparent permanence; they have been tested in experience and have regularly satisfied such criteria as human need and social cohesion. For this reason they have become widely accepted as rules for the conduct of life; they have acquired an imperative force and a highly charged emotional content. Among these are happiness, beauty, justice, honesty, loyalty. Yet these too, despite their seeming permanence and almost universal acceptance, remain experimental—tentative

probing, guides to the exploration of experience rather than fixed goals. There is no space to argue this; argument can be found in the writings of John Dewey, to whom the view here stated is clearly indebted. The danger of a belief in "absolute" values is that it is liable to fossilise our thinking about values, make us less open-minded, more resistant to change. Moral standards, Mannheim tells us—and it applies equally to values of any kind—"do not gain in dignity by pretending they are eternal and unchangeable" (5). The present world situation requires that we should be prepared for change in values or at least for a shift of emphasis; that we should seek and encourage different expressions of traditional values; that we should balance conservatism against experiment. Commitment to "absolute" values is likely to make this task more difficult.

There is a further problem—a dual problem, rather—which is apt to impede our understanding of the nature of values; this is the relation between fact and value and between "is" and "ought". They are not necessarily the same problem, for, as was stated earlier, values may have a purely empirical or descriptive reference which carries no suggestion of "ought". Between fact and value there is sometimes placed a strict dichotomy, as though they belonged to distinct and insulated categories of experience. It is doubtful, however, whether the division between them is as sharp as is supposed. For values imply persons valuing; they are meaningful only in a factual context. Again, individual value judgments are always made with reference to relevant circumstances; they are empty unless related to fact. Moreover, if, as has been suggested, values are tentative probings of experience rather than absolute *fiats*, they are clearly indissociable from an empirical setting. As for facts, these are not, as is normally supposed, items independent of human experiencing, but propositions asserted by human beings; and since the assertion of a proposition involves will and choice, facts are not entirely divorced from valuations. A similar dichotomy is often assumed between "is" and "ought", for instance by Professor D. J. O'Connor in *An Introduction to the Philosophy of Education*, where he quotes the well-known passage from Hume's *Treatise of Human Nature* (6). Here again, although it may be the case that there is no strict logical entailment between "is" and "ought", so that it is impossible to have an "ought" in the conclusion which is not in the premisses, yet factual considerations are certainly not irrelevant to the question what we ought to do—the uninformed conscience is a perilous guide. To pursue the complicated issues which arise from this double problem

would lead far beyond the scope of this article; its importance for the sociologist and, therefore, the educator is real enough, though perhaps not immediately apparent. It is the theme of a stimulating article by Professor Morris Ginsberg in *The Advancement of Science* for January, 1963 (7).

3. EDUCATIONAL IMPLICATIONS

In conclusion it may perhaps be useful to indicate some of the educational implications of this very summary examination of values. Since they are powerful sources of motivation, giving energy and direction to human effort and distinctiveness of character to persons and societies, their importance can hardly be overrated. It seems clear, therefore, that greater attention should be given to their study in the later years of schooling and in college and university. Students should be encouraged to examine the value-patterns both of their own society, present and past, and of other societies; in this way they may be helped to a critical assessment of contemporary values and an enlightened participation in current value controversies, for instance, over sexual behaviour, the treatment of immigrants and the conflicting claims of welfare and profitability in public policy. Thus, too, they may be protected against an over-hasty commitment to Platonic absolutes and the belief that values, unlike all else human, are immune from change.

If commitment is central in the meaning of value, this too should be emphasised in the education of young people. They must be shown that responsible choosing, informed of the circumstances in which choice is made and sensitive to its consequences, is a characteristically human act which it is their duty and privilege to undertake. At the same time they must be encouraged to explore the nature (indeed the *possibility*) of freedom and its corollary, responsibility; for without freedom choice cannot be responsible, and unless it is responsible, it falls short of its characteristic humanity. Moreover, if value implies worth or choiceworthiness, young people must be helped to distinguish between degrees of worth, to appraise critically the comparative claims of different values upon their commitment. In practice this requires an assessment both of circumstances (since values are "contextual") and of the worth of the object, activity or goal towards which choice is directed. Obviously a further educational requirement must be instruction in logical thinking, in the recognition and avoidance of the fallacies, prejudices and unexamined assumptions which block the way to a just assessment of values.

Commitment must be self-critical; otherwise it hardens, like Pharisaism, into a dogmatism which is insensitive to human need.

Little can be said here of the means by which these lessons may be taught. Neither arts nor science subjects have any monopoly in the study of values, for in this field the method and purposes of instruction are at least as significant as its content. The enormous potentiality of literary and historical subjects is obvious, yet this can be nullified by subduing instruction to the pursuit of examination success; while the contribution of science to the understanding of values is lost by ignoring, as so often happens, its historical, social and biographical connections. Whatever the subject, opportunity must be sought for eliciting its value-content and demonstrating the importance of this content in individual and social life; for displaying the critical significance of choice in human affairs; and for studying the logical, moral and social context in which values operate.

NOTES AND REFERENCES

1. para. 35.
2. Deuteronomy, ch. 30, v. 19.
3. Matthew, ch. 13, v. 46.
4. *Diagnosis of Our Time* (Kegan Paul, Trench, Trubner, 1943), p. 16.
5. *ibid.*, p. 78.
6. (Routledge and Kegan Paul, 1957), p. 58.
7. This was, in fact, his Presidential Address to the Sociology Section of the British Association Meeting in 1962.

SOCIOLOGY FOR SIXTH FORMERS?

by G. E. HURD

Lecturer in Sociology, University of Ghana

DISCUSSION of the school curriculum has always tended to be dominated by tradition. Even those who have sought to reform the content of school teaching have tended to limit their horizon by thinking exclusively in terms of how the existing subjects of the curriculum can best be taught. Many educationalists in the past have shown a great reluctance to include new subjects in the curriculum; thus there was a great deal of opposition in the late nineteenth and early twentieth centuries to the teaching of the natural sciences in schools. But natural sciences are now among the established subjects of the curriculum, having won their hard battle for total acceptance, and their value, both educationally and practically, is now held to be self evident. With the social sciences (1), however, the struggle for acceptance is only just beginning. It is the purpose of this paper to make clearer the position of the social sciences in the sixth forms of grammar schools in England and Wales. In the first part of the paper I examine briefly the extent to which these subjects are taught at this level (i.e. to "A" level or an equivalent standard); in the second part I give some illustrations of the views of practising teachers with regard to this teaching; and finally, I test the validity of some of these views by means of an assessment of an experiment in the teaching of sociology which I have carried out (2).

I. EXTENT OF SIXTH FORM TEACHING OF THE SOCIAL SCIENCES

The material on which the first part of this discussion is based was collected from answers to a questionnaire which was sent to a random sample of one in five grammar schools in England and Wales—296 schools in all. An effective reply was received from 154 of these schools, representing a response of 52% (3). The adjoining table shows the number of schools teaching each of the subjects concerned as specialist subjects in the sixth form.

EXTENT OF THE TEACHING OF THE SOCIAL SCIENCES AS SPECIALIST SUBJECTS IN SIXTH FORMS OF GRAMMAR SCHOOLS

	<i>Number</i>	<i>%</i>
Schools teaching economics in sixth form	34	22·1
Schools teaching economics and British Constitution in sixth form	3	1·9
Schools teaching British Constitution in sixth form	6	4·0
Schools teaching sociology and economics in sixth form	1	0·6
Schools teaching psychology in sixth form	0	—
Schools teaching none of the social sciences in sixth form	110	71·4
Total	154	100·0

Economics as a subject in its own right and taught to "A" level was found in just less than a quarter of the schools replying to the questionnaire. Sociology was taught as a specialist subject in the sixth form in only one school, and psychology in none. With regard to British Constitution, the survey suggests that it is taught to this level in only about 6% of the schools. Other evidence, for example a comparison of the number of entries at "A" level with the number of entries in other subjects, suggests rather more activity in this field. In any case, specialist discussion of political institutions and political problems occurs in more than the nine schools which time-table British Constitution, since many of the pupils entering for the Cambridge papers in "Economic and Public Affairs" at "A" level, work which was invariably entered under the general heading of "Economics", undertake some study of government (4). The situation with regard to British Constitution is not as clear as is the position of the other three subjects.

In brief one can say that the survey confirmed one's general impressions with regard to the teaching of the social sciences in grammar school sixth forms. There has been a significant growth in the teaching of economics in recent years, although still less than a quarter of the schools offer economics as a specialist subject. There has also been some study of government under the heading of British Constitution, but the fields of sociology and psychology are as yet virtually unknown in the schools as far as their formal standing is concerned.

2. THE TEACHERS' VIEWPOINT

The fact that the picture which emerged from the survey was

roughly what was expected in no way reduced the need to explain that picture. What explanations are offered by the teachers themselves to account for this distribution? What do they consider to be the forces encouraging and discouraging the expansion of the social sciences at sixth form level? Do they think such an expansion is in the best interests of the schools and their pupils? In order to be in a position to answer these questions, teachers (5) in schools where none of the social sciences was taught were asked whether or not they would like to introduce such subjects into the curriculum. All respondents were also invited to comment freely on the questionnaire as a whole or on any issue it raised in their minds.

Of the 154 grammar schools replying to the survey, 44 had some "social science" in their curricula, leaving 110 which did not teach any of the social sciences as subjects in their own right. Of these 110 with no social sciences, 30 did not answer the direct question as to whether or not they thought these subjects would be valuable additions to the curriculum. Just over one half (in fact 42) of the remaining 80 schools declared themselves in favour of introducing one or more of the social sciences, while 38 schools did not want to introduce any of them. Thus we find that more than half of the schools in the sample, and 70% of those whose views we know, are either teaching one or more of the social sciences or are in favour of introducing them. Of the 42 schools wishing to introduce courses in the social sciences, 28 named Economics as the subject of their choice. Next came political science (eight) and sociology (six); and finally psychology (two). In addition to those which stated their preferences clearly there were some schools among the 42 which were not sure which of the social sciences they wanted, and a few wanted "all" of them.

The more general comments which were made provide much fuller information than these bare figures, for in them the respondents expand on the views they have expressed as to the value of the social sciences in schools, and give reasons for their opinions. What is perhaps more important, these comments sometimes reveal hidden assumptions and statements which are rich in implication.

Of those who were opposed to the introduction of the social sciences, the most serious educational objection was that these subjects were considered to need a mature approach, which, the respondents said, grammar school sixth formers did not possess. This objection was also mentioned more frequently than any other. In the words of one of the teachers:

Certain subjects (i.e. sociology, psychology) can better be introduced at the later stage of college or university, when the student has a firm training in the basic skills. These subjects demand . . . a certain maturity of judgment and outlook which is lacking in the young.

Many other teachers raised the question of the maturity of their pupils, usually in terms of the extent of the pupils' "experience". They gave the impression that this was the major drawback to the introduction of the social sciences, but it was nevertheless distressing to see how often, as in the above quotation, the sixth form curriculum was discussed exclusively in terms of presumed subsequent university education.

There were, however, other objections. Some objected to the social sciences because they envisaged them as being theoretical subjects only, and hence unsuitable for schools. Thus one teacher writes:

School teaches its pupils to live in society in a practical manner, but few, if any, can appreciate social sciences *theoretically* until they reach university age. [Emphasis added]

There were others who were unwilling to have the social sciences pretaught in schools because they considered that these subjects presented insuperable pedagogic problems. Some of these fears were based on the belief that the subjects were, in themselves, very difficult to teach and to learn, while others had their basis in problems of involvement and value judgment which some of the respondents found difficult. Concern about imparting a one sided view on controversial and topical matters prompted the following remark from one Headmaster:

I am very doubtful whether these things can be taught as a subject unless the man teaching them is emotionally engaged. Since both my senior history master and I are well to the left of centre politically, I feel that in an attempt to play for safety we should go too far the other way. On the other hand I am cynical enough to believe that the other side (quite honestly) would have no hesitation in propounding their point of view. So in either case the net result of such teaching in schools is a further propaganda in favour of the establishment.

Finally among the educational considerations, there are those who do not want the social sciences in schools because of objections to the nature of the subject concerned. Some felt that these were subjects where "a little knowledge is a dangerous thing", and others held the belief that the social sciences were not worthy subjects academically,

and therefore should not be taught in schools. Thus one of the teachers writes:

We doubt whether the social sciences are a sufficient intellectual discipline to justify the displacement of more conventional school subjects.

There were also administrative problems. Staffing and the pressure of time in the world of the sixth form were constantly mentioned and many comments were to the effect that, even if they wanted to introduce some of the social sciences, it would be impossible to do so. One headmaster complained:

We have so many problems that it is all we can do to teach the ordinary subjects of the curriculum and speculation as to what we might be able to teach could not be indulged in with any profit.

This school was chronically understaffed, and to them problems of the curriculum were second in importance to getting enough teachers, of any sort, to stand in front of the classes. Many complaints of an overloaded sixth form curriculum were connected with problems of university entrance, and the universities were castigated for the effect of their entrance requirements on the schools. In particular, Departments of Economics were brought to task for their differences of opinion as to whether or not they wanted economics taught in the sixth form to their prospective students.

This is a small collection of some of the most typical comments which were offered in support of the arguments of those who did not want to introduce the social sciences into their curriculum. All of them were contradicted to a greater or lesser extent by those who supported the spread of the social sciences in schools. The difference of opinion is most striking and most important on the questions of the maturity of the pupils and the difficulty of the subjects. Speaking of the experiences in his school of teaching economics, one headmaster reports:

Our experience has been that economics has made a steadily increasing appeal in the last few years. . . . We have generally found that "good average" and slightly "sub average" boys from C, D, and E streams who stay on in the sixth form have done surprisingly well in their work in economics and economic history. They have certainly shown interest.

This comment, together with others like it, stands in direct contradiction to some of the beliefs and opinions quoted earlier. It is of particular interest that several economics teachers specifically mention that the social sciences are suitable for the less gifted pupils, even

although they were not asked about this point. It is evidently not their experience that the subjects are more difficult than the conventional school subjects.

Several schools, however, although they would like to offer courses in some of the social sciences, found that for various reasons it was impossible to do so. Some saw "minority time" as the best place, administratively, to introduce such subjects. A few suggested solutions in terms of broadening the existing syllabus of the traditional school subjects. But neither of these alternatives can effectively be put into operation within the present structure of sixth form and university work, for as more than one teacher asked:

How far are the schools justified in jeopardising a boy's career for an educational ideal that does not pay practical dividends?

Others pointed out that economics was taught effectively because it was examined at "A" level, and until other subjects were placed upon the same firm foundations there would be little development (6). A further practical problem facing the schools which wished to introduce one of the social sciences was the lack of qualified teachers in these subjects.

Like most new developments in English education (wrote one Head) the extent to which new courses can be implemented in schools is dependent in the last resort on the availability of staff.

There was no question in the questionnaire which asked how schools which taught the social sciences approached the problems involved in teaching these subjects, but all those commenting on this aspect were unanimous that the approach should be as practical as possible. They all advocated an empirical approach, with any theory, if taught at all, taught at the end of the course, and only after a considerable grounding in the empirical side of the subject. The following quotation is typical of the comments on ways of approaching the subjects.

"Economic institutions" meets with more interest than "economic theory". The older pupils (say fourth, fifth and sixth forms), of secondary schools can readily and quickly grasp the significance of (say) the organisation of banks, retail and wholesale business, joint stock companies, Trades Unions, etc. . . . I think it is this institutional approach we require mainly at the secondary level, with the absolute minimum of theory required as a background to the study of economic institutions.

3. THE STUDENTS' VIEWPOINT

The views which were collected from these practising teachers

posed several problems. Most important among these was concerned with the question of whether or not grammar school sixth formers can benefit from a course in any of the social sciences. Many teachers maintain that they cannot, primarily because of their immaturity, and they give this alleged fact as the main reason for their opposition to the further introduction of the social sciences. But there were also many who had successful economics courses in operation, and a few with courses in British Constitution. Practical experience in these two subjects does not suggest that they are beyond the scope of sixth formers. In order to obtain some empirical evidence on this and related problems with special regard to the teaching of sociology, a series of experiments was undertaken in grammar school sixth forms. In particular a course in sociology was included in the general studies programme of a large boys' grammar school. At the time of writing the course has been running for some three years and it is to this experiment that I now wish to turn. At this school the second year sixth form is divided into three equal and similar groups for general studies periods. Sociology is studied by each group in turn for one term. An hour and a quarter per week is given over to this work, and in addition two essays must be written by each boy. The course has been running sufficiently long now for it to be considered part of the natural order of school life, and the boys in this school no longer consider it unusual to study some sociology in the sixth form. The only unusual element in the course is that it is taught by university teachers rather than by members of the school staff, although the school's senior history master is usually present and is responsible for the administration of the course.

The aim of the course is to provide a brief introduction to sociology, the methods of investigation used by sociologists, and the types of problems they study. Obviously in a course lasting 12-15 hours in all, any attempt at anything like a comprehensive coverage, even of a few aspects of sociology, is doomed to failure. Consequently the approach which has been used is based on the assumption that the actual topics discussed are of less importance than the way in which they are discussed. In all the lessons the aim is to emphasise one or more of the following points.

1. That sociology is essentially concerned with the *interaction* between people and between institutions.
2. That sociology is not concerned with people as such, but with the roles which they have in given institutions.

3. That the comparative method is one of the main characteristics of the sociological approach.
4. That sociology is non-evaluative.
5. That sociology uses the scientific method of observation and hypothesis.
6. That the sociologist is looking for regularities in social phenomena.

The topics which were chosen were used as illustrations of these six basic points which were continually emphasised. For example, population statistics were used above all to show that there are regularities in phenomena such as birth rates and death rates, that is to say, in areas where perhaps one would not at first expect to find such regularities. Again, the discussion of problems such as divorce or suicide were used to show how a non-evaluative approach can be made to explain aspects of a topic which is usually considered only in moral terms. The most important part of this approach to the teaching of sociology was that there was no attempt to discuss theoretical concepts or problems of methodology in isolation. Some problems of a theoretical nature were inevitably raised and some theoretical concepts were mentioned by the boys in the course of discussion. If this happened they were explained and utilised, but these problems and concepts were not used as a starting point. Throughout the courses every attempt was made to encourage discussions among the boys and many of these discussions proved very lively. Many of the boys' written comments were also revealing, so much so that after a while a collection was made of them. At the end of the last three courses which have been given, the boys were asked to write their comments on the course and to hand them in anonymously. All the boys complied with this request, some of them stating that the anonymity had enabled them to comment more freely. The following remarks are based upon these comments and the quotations are taken from them. As was to be expected, some of the statements contradicted others, but on the whole there was a considerable majority of support for one or other of the points of view expressed.

There were many comments on the course itself. Most of them were favourable although some were adversely critical. Attempts were made to meet some of these criticisms in later courses, not altogether successfully. Thus, when the consensus of opinion in one group was that too many topics had been discussed at too superficial

a level, an attempt was made in the following term to deal with fewer topics in greater detail. This brought the complaint that, in view of the length of the course, too much time was spent on the two major topics which were discussed. Both of these criticisms were quite justified and one can only conclude that there is nothing that can be done about this particular problem in so short a course. Many of the boys themselves saw the difficulties involved and commented on them, usually to the effect that they would have liked the course to be longer. Some of them wondered if the class discussions might be cut down, but the general opinion was that

the discussions have been useful and necessary, not because of any lack of clarity in the first expositions of the problem in hand, but because these expositions open up great new fields for discussion. It is a refreshing experience to think to some purpose, and to arrive at a conclusion, or even a definition.

Indeed the method of teaching through class discussions, which was often employed, evoked many thoughts. One boy felt that

the course has stimulated a certain amount of discussion outside the classroom, but within the classroom the boys were rather lethargic. They were not prepared to voice their opinions as the superficiality of the course did not provide, I feel, sufficient concrete evidence on which to base their conclusions. But sociology has helped to explain the actions and behaviour of the characters I have met in my English reading, but such a restricted and rather superficial course does not, I think, shed much light on sociology as a whole.

There were others who felt differently. One, for example, thought the introductory lessons gave one a pretty clear idea of what sociology is and the methods used in it.

Certainly the statements of some of these boys give the impression that they have understood at least something of what the course was aiming at. One rather perceptive comment reads:

The idea of applying the methods which proved so effective in the natural sciences to social problems is such an obvious step that one cannot help wondering why it is not more generally accepted. The first reason which suggests itself is that the social problems are so pressing and so generally evident that people are inclined to solve them before finding out what they are.

There were also, in the class, those who resisted the implications of some of the lessons, usually at an emotional level. One of the boys summed up his feelings by saying

sociologists seem to me to try to show us that the various aspects of society

conform to various patterns or rules. I do not believe this can be done. These things just happen, they do not obey rules.

Some with these feelings recognised the resistance within themselves, as did the boy who said of the course:

It has tended to help my history studies because of the teaching on the need to reflect about ultimate causation, but I still tend to use facts to back up a particular pet theory.

Another boy, revealing both emotional resistance to sociology and some knowledge of what sociology is all about, said:

My main criticism of sociology is that it is too objective . . . for instance, in the lesson on suicide we learnt little or nothing about the reasons why *people* commit suicide, but perhaps that is not sociology.

Several of the boys felt that the value of the course had been in the relevance of the subject matter to the wider society outside the walls of the school. The feeling among this group was that

the course is an excellent one to be taught to sixth formers in grammar schools. It broadens their outlook on social, economic and political aspects of Britain. Grammar school boys seem to be cut off from the outside world of pay packets and insurance stamps but this course broadens their outlook considerably.

There was a good deal of this feeling that the course was directly relevant to the experiences they had had or were shortly to have. The boys felt that they had been discussing matters of general importance to them which had previously had no place in their education. One of them expressed it in the following way:

It has enabled me, at any rate, to study and understand more fully the society in which I live, surely a necessity if one is not to go out into the world a babe in arms.

There were also some adverse criticisms of the course, mainly concerning the fact that it was too short to give more than a superficial outline. The strongest expression of this point of view was that we are left with no idea of order, but just a confusion of facts, figures and general bewilderment.

There were further criticisms of the methods of teaching used, and one or two of the nature of sociology as they conceived it. One boy complained that:

Sociology is not precise enough for me. It deals with too many meaningless generalisations. Let us have more study of specific groups in different localities, and have proof before we draw any assertions from these studies.

There were also a few complaints of boredom, but these were overwhelmingly outnumbered by comments on the intrinsic interest of the subject. There was also considerable support for the inclusion of some sociology in sixth form work, for example:

Sociology is one of the most valuable of non-specialist courses, and far more interesting than certain other courses. It is essential for all people who would claim to be educated to know something of how society works and "how the other half lives".

Such support was usually given because the boys considered sociology to be relevant to their situation. There were other comments, however, which were rather more guarded in their enthusiasm:

As a specialist subject sociology could not be very successful since it depends very much upon one's own interpretation of the facts. It could not be a set subject like English or maths, but as a sixth form subject it could be taught, although one disadvantage would be the lack of text-books. The value of sociology I have been taught is considerable. This teaching makes one think more deeply into the problems confronting everybody in the world to-day. It makes you wonder whether everything you read or are taught is entirely correct. In schools sociology should be taught as a general subject in the sixth form, but it would be of no use at all to try to teach children below sixth form level, since they would not be either intelligent enough or have read widely enough to reach satisfactory conclusions from a certain set of facts.

Others—a few—thought that sociology had no place in grammar schools chiefly because

the vital facts of sociology seem rather abstract compared with any other school subject except divinity. Because of this I think it would be unwise for it to be included in the school curriculum. The course itself has not been particularly interesting to me—but it must be said that of all the modern studies courses that I have so far had to bear, this one has definitely been the most outstanding and has made me think deeply at times.

One other facet of the course which the boys were not slow to seize upon was the fact that it was a subject which did not fit into the neat categories of "arts" and "sciences". Some of them saw in sociology an area of discussion which could be used as a meeting point for those of differing disciplines. The most articulate comment along these lines reads:

Its importance in schools lies in the fact that it is taught to boys of varying opinions and differing school subjects. Sociology should not become merely the sphere of a specialised few, but a part of our everyday lives. In regard to other subjects, sociology can be regarded as a common denominator as it brings different specialists together to discuss the matter in a much broader plain.

The course also appeared to have helped the boys to appreciate the other "side" of the sixth form. Thus a classicist writes:

Sociology is certainly helpful for "Arts" sixth formers since it helps them to have experience of the scientific, non-evaluative, objective (etc.) approach, delivered more painlessly than in the natural sciences.

Other arts students commented similarly on a new understanding of the methods of the natural sciences achieved during this course. Likewise a scientist refers to the awakening of interest in human problems:

As a subsidiary subject for science sociology is of great use. It is easy for someone studying a science subject to lose interest in everything not directly concerned with his principal subject, which the study of sociology might perhaps ease. I would very much like to study sociology on a larger scale, but because I am a scientist I do not have the same views as an artist and hence I am never too keen to air them. This is perhaps because the scientist is never given much chance to talk about the subjects which an artist is studying during the specialist periods.

Others discovered that in sociology they had found a subject other than their specialist subjects which really interested them:

The subjects I study—maths, physics, and chemistry—I do find very interesting but the subjects I have left behind—French, Latin, history, geography, etc.—seemed uninteresting. I must confess that I did think that sociology would also fall into this category. Hence I was surprised to find that the subject was interesting and also of great importance to every student's upbringing.

4. CONCLUSIONS

The written work from which these quotations were taken, the essays which the boys wrote, and their reactions in class have led to the following conclusions. First, the boys in the sixth form of the grammar school concerned are interested in the subject matter of sociology and are keen to have some chance to learn about it. (The boys who said they had been bored also confessed a lack of interest in other school subjects.) Secondly, there is nothing inherent in the subject matter of sociology, properly taught, which makes it impossible to teach at this level. There was, however, some evidence to suggest that a theoretical or philosophical approach to the subject could only have been understood by the brighter boys. Thirdly, sociology is a subject which interests both arts and science specialists, and both showed themselves capable of a high level of discussion. Sir Charles Snow's suggestion (7) that sociology genuinely speaks

from one culture to another, thus creating a middle ground between the two cultures, was borne out by this experiment.

These are conclusions which have been drawn chiefly from this single experiment, conducted over the last three years. They have been supported by other shorter more limited experiments which have been undertaken in other grammar schools, but nevertheless the evidence is too narrowly based to justify generalisation. The evidence is, however, sufficient to enable us to question some of the statements of practising teachers which were quoted earlier, especially those relating to the maturity of the students and the difficulty of the subject. It is not adequate to account for the absence of the social sciences from schools solely by reference to the views of those teachers who are opposed to their introduction, and a total explanation must explain the views and attitudes of the teachers as well as the curricular situation.

In the first place one is faced with a sharp division of opinion as to the value of the social sciences. In assessing the validity of these contradictory views we must take account of the way in which they were arrived at. It seems significant that all of those teachers who had tried a course in the social sciences were in favour of retaining it, or of introducing a wider variety. Those teachers who opposed the introduction of the social sciences did so on less empirical grounds, and the doubtful nature of their main arguments has already been demonstrated.

But it may be that the real reason for these views, and the reasons for the absence of the social sciences from so many schools, are to be found in the structure of the educational system and in the structure of the wider society. It is a well known fact that grammar schools, concerned as they are with the transmission of adult values and knowledge to children, tend to be conservative. Even within the established subjects of the school curriculum change tends to be inhibited. Twenty years ago Karl Mannheim had demonstrated how in the natural sciences the schools' curriculum lags behind available knowledge (8). This resistance to change is even greater when the new material which is available for teaching is sufficiently qualitatively different for it to be classified as another "subject". A glance at the attempts to introduce the natural sciences into the schools and universities of England makes it plain that the now self evident value of science, both educationally and practically, was far from apparent even to great scholars and teachers (9). Even the foundation, in the nineteenth century, of the new universities and colleges with extensive

science syllabuses did not result in a general approval of science. Rather, the new institutions shared the disapproval of the sciences they embraced. It was left to factors external to the education system—the great exhibitions and Britain's failure in industrial competition—to bring home the lesson that the nation ignored the sciences at its peril. After this realisation became general the natural sciences were gradually introduced into the schools, often at first in the form of "extras" which were taken in the afternoon and frequently paid for separately.

There are so many parallels between the development of the natural sciences and that of the social sciences that it seems clear that resistance faces any new subject, and that one must explain resistance to the social sciences as one category of resistance against all new subjects. It is only recently that the social sciences have become established at the university level, indeed sociology has only effected an entry to Oxford and Cambridge in the last three years. The result is that few of the school teachers of to-day became conversant with the social sciences during their own university days and in particular there is a good deal of ignorance about sociology and its claims. The replies to my survey showed that there is still a large number of teachers who think that sociology is a form of morality or a form of help to the poor and needy. Such misunderstanding explains some of the opinions which were expressed. Moreover, just as in the case of the natural sciences it was eventually a recognition of their national needs and of vocational applications that effected their entry into schools, so in the case of the social sciences the same factors are operating. Commercial firms are increasingly calling upon economists and sociologists, thus showing their recognition of the role that these disciplines have to play. The fact that employment prospects are increasing for those who are qualified in the social sciences is a factor which is likely to lead to their spread at school level.

In conclusion let me restate that it has not been my purpose to advocate the teaching of sociology in sixth forms but to challenge the main arguments which were used by teachers who were opposed to any teaching of the social sciences in schools. It has been suggested that sociology can be taught at a level from which sixth formers can benefit if it is considered desirable to teach it. Finally, it has been suggested that, whatever the wishes of educationalists, there are factors in the wider social structure of the society which make probable the further spread of the social sciences in sixth forms.

NOTES

1. The social sciences were defined for the purposes of this investigation as: Economics, Political Science (including Government and Political Theory), Sociology (including Social Anthropology), and Psychology (including Social Psychology). This delimitation was reached after an analysis of the handbooks of the universities of England and Wales to see what subjects the universities in fact taught under the heading "social sciences".
2. This experiment was initiated and supported by the Department of Sociology at the University of Leicester. In particular Professor I. Neustadt has shown a great deal of interest in it.
3. With a response rate of 52% there was a danger that the replies would be biased in favour of those schools which were interested in the social sciences, in which case the figures would have given an overestimate of the teaching of the social sciences in sixth forms. However, comparisons with R. Sztreter's local survey on the teaching of economics, a survey with a response rate of 95%, suggest that this did not happen. Cf. *Educational Review*, Vol. 14, No. 1, Nov. 1961.
4. The titles of the two relevant papers are:
 "Structure and Working of British Government."
 "World Affairs since 1919."
5. The majority of questionnaires were completed by the head teachers to whom they were addressed. Where there was an economics teacher in the school, however, the questionnaire was frequently filled in by this teacher. There were a few references to a general staff discussion on the contents.
6. It is of interest to note that an A level syllabus in Sociology has recently been approved by the Oxford Examinations Board. It seems unfortunate, however, in the light of the experience reported in Part III of this paper, that the syllabus should start with a discussion of abstract sociological concepts. (Cf. *Times Educational Supplement*, 7th Feb. 1964, p. 293).
7. C. P. Snow, "Recent Thoughts on the Two Cultures". Foundation oration at Birkbeck College, 1961.
8. K. Mannheim and W. A. C. Stewart, *An Introduction to the Sociology of Education*, p. 30.
9. Cf. D. S. L. Cardwell, "The Organisation of Science in England".

JUNIOR SCHOOL X AND FAILURE AT THE GRAMMAR SCHOOL

by R. R. DALE and S. GRIFFITH
University College of Swansea

I. THE HOME DISTRICT OF SCHOOL X

PRIMARY SCHOOL X was chosen for special inquiry because it produced a higher proportion of grammar school deteriorators than did other schools. The school was situated in a district which contained some eight hundred houses. There was no social centre, apart from a few places of worship and public houses, but a town was situated a comparatively short distance away.

About four hundred and fifty of the houses were, on the average, one hundred years old. They consisted of four (some five) small rooms, including bedrooms; they lacked modern conveniences. Their average rateable value before the re-valuation was about £10. Some fifty houses were rather more substantial than those mentioned above, and were between fifty and seventy years old. There were about a hundred new council houses, a similar number of other houses recently built, and about the same number of small bungalows.

2. SCHOOL X

The junior school had an average population of somewhat less than three hundred. The average size of class was 34.4. The classes were numbered from one to five, some with "A" and "B" streams.

Class 1A was the "scholarship" stream; Class 1B consisted of bright pupils who were too young to sit the grammar school examination, plus those who were old enough to sit but very unlikely to pass. 1B was a rather large class. Five classes were in the main school building, one in a hut in the yard and two in hired rooms.

School X did not provide ideal conditions for teaching.* In spite of this there was much effective teaching in the school, as shown in the following analysis of the school scholarship examination results.

* For a discussion of the influence of junior school buildings on the success of its pupils at the entrance (to grammar school) examination, the reader is referred to Floud *et al.*, 1957.

TABLE I

GRAMMAR SCHOOL ENTRANCE EXAMINATION

	<i>Place Winners</i>		<i>Candidates</i>	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
Year 1	10	3	No Preliminary	
Year 2	9	11	19	25
Year 3	7	10	19	22
Year 4	6	10	18	22
Year 5	6	13	21	17

Table I shows that the entry to the grammar school from School X was about 45% of the candidates in year 2, over 41% in year 3, about 40% in year 4, and about 39% in year 5. The corresponding percentages for all other schools in the area were about 38%, 39%, 48%, 46%. We see therefore that over the four years School X obtained about the same percentage of successes as the remaining schools did. This result was achieved in spite of their candidates being poorer in quality than the average. We see also from Table II that the successful pupils must have been fairly high in the order of merit as they were placed in the higher streams in the grammar school. (This streaming was done by order of merit.)

TABLE II

THE "STREAMS" IN WHICH PUPILS FROM SCHOOL X WERE PLACED ON ENTRANCE TO THE GRAMMAR SCHOOL

<i>Streams</i>	<i>Girls</i>			<i>Boys</i>			<i>(D)</i>
	<i>A</i>	<i>B</i>	<i>C</i>	<i>A</i>	<i>B</i>	<i>C</i>	
Year 1	3	5	2	2	1	—	
Year 2	4	3	2	7	3	1	
Year 3	3	4	—	5	3	2	
Year 4	4	2	—	4	5	1	
Year 5	3	2	1	4	2	6	1

Thirty-three girls out of thirty-eight, and thirty-six boys out of forty-seven, were placed in "A" or "B" streams on entry into the grammar school.

3. COMPARISON OF ACADEMIC PERFORMANCE OF GIRLS AND BOYS FROM SCHOOL X

Commencing in year 2 and continuing for years 3, 4 and 5, there occurred at the school an interesting change in the proportions of boys and girls who were successful in gaining grammar school places. A larger proportion of boys than girls entered the grammar school

from School X between year 2 and year 5; whereas the reverse was the case for the other schools in the area, as it also had been in School X itself. A special examination was therefore made of these four years.

TABLE III

GRAMMAR SCHOOL ENTRANTS FROM SCHOOL X AND THOSE
FROM ALL OTHER SCHOOLS

	<i>School X</i>		<i>All other Schools</i>	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
Year 2	9	11	42	28
Year 3	7	10	35	26
Year 4	6	10	42	34
Year 5	6	13	48	34
Total	28	44	167	122

From Table III we can see that the relative percentage entries of girls compared with boys, from all other schools (based on total entry from these schools), were 57.8% and 42.2% respectively; the corresponding percentages from School X (based on total entry from School X) are 38.9% and 61.1%.* This considerable percentage difference in entry between girls and boys of School X was not consistent with the relative numbers sitting the preliminary examination (*q.v.* Table I) because 45% of the children sitting the preliminary from School X were girls. It is unlikely that the boys of School X had greater average ability than the girls, at this age. It is interesting to note that Richardson (1956) states "... 'successful' (primary) schools were much less successful with girls than they were with the boys. In the grammar school, 63% of the boys came from 'successful' schools, but only 35% of the girls."

We then examined the amount of deterioration in the two sexes for these four years. In Table IV, for years 2 to 5, we note that six of the girls became deteriorators (out of twenty-eight entrants), and nine of the boys (out of forty-four entrants), i.e. about a fifth of both the boys and the girls. There is no evidence here that the teacher of the boys overcoached his pupils, thus getting better results than the teacher of the girls. We must observe, however, that eleven of the forty-four boys could not become "deteriorators" according to the definition adopted, because they were already in the lowest stream, but only three of the twenty-eight girls were so placed. When this

* The difference is statistically significant; the entry from School X for years 2 to 5 contained a far higher proportion of boys than did the entry from all other schools combined. (The overall tendency of girls to gain a higher proportion of places is nation-wide. Cf. Douglas, 1964.)

is allowed for, 24% of the girls "at risk" became deteriorators and 27.3% of the boys. This difference is small and is in the same direction as in the other schools of the district. Two conclusions were therefore drawn. The first was that if the improvement in the proportion of boys gaining places was due to more effective teaching of the boys—or less effective teaching of the girls—these effects had not increased the proportion of deterioration. The second was that—as had been realised from the beginning—using such small numbers it was only possible to come to dependable conclusions if startling differences were found. No such differences appeared. We therefore turned to our main task, which was to compare the proportion of deteriorators from School X with the proportion from all other schools.

4. COMPARISON OF THE PERCENTAGE OF DETERIORATORS FROM SCHOOL X WITH THAT OF DETERIORATORS FROM ALL OTHER PRIMARY SCHOOLS IN THE AREA

TABLE IV
DETERIORATORS FROM SCHOOL X AND THOSE
FROM ALL OTHER SCHOOLS

	<i>School X</i>		<i>All Other Schools</i>	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
Year 1	3	1	4	3
Year 2	1	4	1	1
Year 3	2	2	1	2
Year 4	2	1	—	3
Year 5	1	2	3	2
Total	9	10	9	11

When we compare Table I and Table IV, this time for all five years, we can see that there were a total of nine girl deteriorators out of thirty-eight entries and ten boy deteriorators out of forty-seven entries, from School X, over five years; that is, 23.7% of the girl entries deteriorated and 21.3% of the boys. When we again consider only those "at risk" (see Table II) the percentages become almost identical at 27% for girls and 28% for boys. The deterioration from all other schools for five years, as defined in this inquiry, was 4.3% for girls (9 out of 211 entries) and 6.7% for boys (11 out of 165 entries). The difference *between the sexes* in academic deterioration, for pupils from all junior schools, though in the expected direction, i.e. a rather greater percentage of boys than girls (9.9% against 7.2%), is in this case not statistically significant.

Here, however, there is another difference, which in size is the startling difference we were looking for. No less than 22.4% of the entries from School X deteriorated (19 out of 85), while only 5.3% of the entries from all other schools deteriorated (20 out of 376). This 17% difference in deteriorators between School X and all the other junior schools in the area is statistically highly significant. We therefore continued the search for the cause of this situation.

5. THE RELATIVE INFLUENCE OF JUNIOR SCHOOL TEACHING FOR SCHOOL X AND FOR OTHER SCHOOLS

From the evidence already presented we can see that School X obtained an unduly high proportion of grammar school places, if we apply as a test the success or failure of their pupils during the first year at the grammar school. The most likely reasons for such a situation are either that School X was able to drill or train a high percentage of its pupils to a higher level academically than their ability was able to maintain, or that the percentage of entrants from School X who came from "unhelpful" homes was much higher than was the case elsewhere, and that this influence acted more powerfully when the pupil was in the grammar school than when he was in the primary school. By "unhelpful" we mean, for example, homes where parental opinion did not support school work, or where there was lack of facilities for study. In order to clarify the matter a more detailed comparison was made between the deteriorators from School X and those from other schools. Each case study was taken individually, and examined carefully for the "principal factor" behind the deterioration. In many cases there appeared to be little doubt about this, but wherever there seemed to be some doubt the decision was made by the co-author who did not know whether the pupil came from School X or not. Though the final allocation was inevitably subjective, a determined attempt was made to remove any possible bias.

The case studies are classified in Tables V and VI according to principal factors only, in so far as they could be identified, under four headings. One pupil has not been included as we were unable in his case to select a principal factor. There were also a few cases where there was a contributory factor which was almost as powerful as the principal one. Classification of this kind is difficult, and the table must therefore be regarded as somewhat tentative, in spite of the exhaustive examination which we gave jointly to each case.

Although the overall numbers are admittedly small for this type

of work it must be remembered that each case is a severe example of academic deterioration, collected together over five years, and selected objectively. We consider, therefore, that the general trends of the comparison between pupils from School X and those from other schools should be reasonably reliable.

The heading "Personal Factors" has lack of persistence (in the pupil himself) as its main constituent. "Emotional Upsets" embraces two cases where the pupil experienced severe emotional crises which, though originally in the home, were not due to a poor home background. The "Lack of Ability" section does not of course include pupils who were placed in the bottom stream on entrance. The percentages are included only to aid the reader to perceive at a glance the general character of the results and are not intended to be read as precise figures. Those percentages based on one or two cases only must inevitably be very imprecise and unreliable, and they are given only to complete the 100%.

TABLE V
PRINCIPAL FACTORS IN THE DETERIORATION OF EACH PUPIL

	<i>School X</i>		<i>Other Schools</i>	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
Lack of intellectual ability	1 (11.1%)	1 (11.1%)	0	0
Unsupporting home background	6 (66.7%)	5 (55.5%)	8 (88.9%)	6 (54.5%)
Personal factors	2 (22.2%)	3 (33.3%)	0	4 (36.4%)
Emotional upsets	0	0	1 (11.1%)	1 (9.1%)
Totals	9 (100%)	9 (100%)	9 (100%)	11 (100%)

Table V is based on only thirty-eight cases; but it gives once again an indication that home background is an important factor in deterioration. We should perhaps repeat that there is more than one cause of deterioration in many cases; an attempt has been made here to find the main cause for each pupil. In the above table, however, where the analysis examines the relative proportions of the principal causes *within each group of deteriorators*, there are no reliable differences.

If we use the evidence in a different way, the chief factor producing the difference between School X and the other schools is shown. In the table below, the incidence of the cause of deterioration is percentaged against the total number of entrants from that particular school or group of schools. The table is deliberately confined to

three of the factors, namely lack of intellectual ability, unsupporting home background, and personal factors.

TABLE VI
DETERIORATORS, PERCENTAGED AGAINST RELEVANT ENTRANTS

	<i>School X</i>		<i>Other Schools</i>	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
Lack of intellectual ability	1 (2.6%)	1 (2.1%)	0	0
Unsupporting home background	6 (15.8%)	5 (10.6%)	8 (3.8%)	6 (3.6%)
Personal factors	2 (5.3%)	3 (6.4%)	0	4 (2.4%)
Total Entrants	38	47	211	165

The number of cases is too small for any reliance to be placed on the difference between the schools under "Lack of Intellectual Ability". On the other hand the differences between the schools under the heading "Unsupporting Home Background" are too large to be ignored and are statistically highly significant.* The influence of a poor home background is much more widespread in the catchment area of School X when compared with the catchment areas of all other primary schools. The influence of the neighbourhood itself, particularly its social and educational outlook, appeared to us to be very powerful, but our work did not include any attempt to isolate it from the influence of the home.

Since analysis of the causes of deterioration in the academic progress of entrants from School X seemed to point to the character of the homes as a major factor in the deterioration, it was decided to make a more detailed inquiry into the home background of the deteriorators from School X. The home of each deteriorator was visited at least once; in some cases more than one visit was necessary to check on previous impressions.

An indication of the social status of a community can be obtained from a knowledge of the types of occupation pursued by its members. An investigation of parental occupation, therefore, was carried out in the School X district; the categories into which the occupations are divided were based on the "Standard Classification for Social Status of Occupation" (Glass, 1954). The result of the investigation is shown in Table VII.

* The Chi-square test: significant beyond the .001 level, when the 2×2 table contrasts pupils with a poor home background with "all others" and School X with all other schools.

TABLE VII

SOCIAL STATUS FROM PARENTAL OCCUPATION

Category of Parental Occupation	1	2	3	4	5	6	7
School X District (Years 1 to 5)	—	—	1%	2%	22%	65%	10%
All other School Districts (Year 5)	5.9%	8.8%	9.8%	8.8%	40.2%	20.6%	5.9%

Category 5 indicates skilled manual and routine grades of non-manual etc.; Category 6 indicates semi-skilled labour; Category 7 indicates unskilled labour.

The Table shows that School X district contained a preponderance of parents in semi-skilled occupation; there was, also, nearly twice the percentage of unskilled workers in the district compared to all primary school districts in the area of the grammar school. It is significant that there was only one resident in School X district marked "J" (for Juror) on the electoral roll.

The evidence therefore points strongly to the following analysis. School X is situated in a district which is materially and culturally much less advanced than the average standard of the other districts which feed the grammar school. By either exceptionally good teaching or maybe special coaching, and certainly by hard work on the part of both staff and pupils, School X gained a much higher proportion of grammar school places than would normally have been expected from a school situated in such an area. When these pupils reached the grammar school, however, the differential teaching effect which brought many of them there was removed, and some "deterioration" would naturally occur. This process would be exacerbated by the probably greater influence of the homes on progress in the grammar school than on progress in the primary school. As we are not here concerned with those pupils who just scraped into the grammar school, and who were therefore placed in the bottom stream, the main cause of deterioration is not lack of ability, but inadequate motivation for academic work, stemming often from a home background which gave inadequate support, but finding its roots in the ethos of the neighbourhood. The relatively low standard of parental education in such a district is only one of many factors which impinge on the problem, and it is closely related to a number of others. This study, however, shows dramatically its importance.

6. IMPROVERS FROM SCHOOL X

It was considered that an examination of the few "improvers" from the same school might throw into relief the salient factors accounting for the decline of the deteriorators. In years 1 and 2 there were no improvers among the boys from School X, but three of the nineteen girl entrants (15·8%) showed substantial improvement. Taking entrants from all other junior schools in the grammar school area for the same period, improvement was shown by five of the eighty-six girl entrants (5·8%) and two of the seventy-one boy entrants (2·8%).

If the matter had been left there readers would have been given a misleading impression, because during the next four years there was no other improver, either boy or girl, from this school, although there were twenty-six from other primary schools.

The three girl improvers from School X did not, as one might have expected, have parents who were educated in a grammar school. This would indeed have been exceptional in this district. They all belonged, however, to Social Class 5, which except for 3% of parents, was the highest class of the district. They also lived in houses which were appreciably better than most of the houses in the catchment area. They were all the first-born members of the family, and in two of the cases there were only two children in the family. Most important of all was the supporting nature of the parental attitude to the children's education, evidenced in a number of ways. (Cf. Whalley (1961), p. 142.) All three girls also showed a good standard of persistence during their school careers. This undoubtedly originated partly in the parental attitude, but there may also have been a contribution from the inherited temperamental characteristics of the girls. Their ability, however, was limited, and none of them did particularly well in their external examinations.

As in the case of deterioration, the sex difference in the incidence of academic "improvement" is in favour of the girls, i.e. there is a greater proportion of boy deteriorators and of girl improvers among the grammar school entrants who came from School X. The numbers are so small that we checked the trend by comparing it with the overall results for years 1 to 5. As already indicated, there were 9·9% of deteriorators among the boys and 7·2% among the girls. On the other hand there were 7·2% of improvers among the girls and only 4·7% among the boys. The trend is small, but it agrees with the findings of other research. (Cf. Rushton (1963), pp. 3, 117.)

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A COMPARISON OF TWO MODES OF RESPONDING TO LINEAR AND BRANCHING PROGRAMMES

by G. O. M. LEITH and BARBARA HOPE

I. INTRODUCTION

THIS article considers two questions of concern to users and writers of programmes. The first is the circumstances in which a linear or a branching style of programme is more effective. The second is whether an overt mode of responding secures more learning than a more implicit method. Related to both problems is that of the relative length of time needed to complete each kind of programme when responses are either written or merely "thought".

Active responding is a feature of programmed learning which has been given emphasis by many writers. It has been held that the overt method of responding (e.g. writing or speaking) is superior to response modes which involve less activity on the part of the learner (e.g. multiple-choice selection, covert constructed responses, reading with the answers supplied). Previous investigations have tested the roles of overt, covert, reading and multiple choice modes of responding to linear programmes and compared the effectiveness of linear and branching programmes where, however, size of step is an unanalysed variable. This investigation assesses the effectiveness of overt and covert modes of responding with each style of programme.

Previous Research

Skinner's position on the need for overt responding has been challenged by many writers. While some workers (Lambert, Miller and Wiley, 1962; Widlake, 1964) have failed to find differences between different methods of responding to linear programmes, Krumboltz and Weisman (1962) found their overt group scored highest on a retention test. A contrary result was found by Goldbeck and Campbell (1962) whose reading group was best after a ten week retention interval. These authors suggest that the difficulty of the material is an important factor influencing results, a view which is supported by an experiment reported by Eigen and Margulies (1963).

They found, using syllables which varied in degree of familiarity, that the thinking response was as successful as writing the answer only when the task involved relatively familiar materials. Cummings and Goldstein (1962) also found that overt responding gave higher scores with a programme on the "Diagnosis of Myocardial Infarction" involving both verbal and non-verbal items. Further evidence comes from a report by Van Wagenen and Travers (1963). They found that having children give oral responses in a foreign language vocabulary task is reliably better than covert responding. This is in line with the results of an experiment on teaching spelling to young retarded pupils (Gordon and Leith, 1965).

On the basis of these findings it seems likely that tasks involving materials which cannot readily be assimilated to already existing cognitive structures require overt practice. On the other hand, where the learners have a set of relevant concepts the covert mode may be adequate.

This inference can be extended to the effects of branching programmes—which involve selection of the answer rather than overt construction. In using a branching machine the overt response is pressing a button and with a scrambled book it is turning pages (though in experimental work the learner often indicates the frames he has read, in addition). It may be inferred that overt responding to linear programmes will be more effective than using branching programmes based on the same materials when these involve learning and organising unfamiliar responses and not merely discriminating and extending already learned concepts. In other words the maturity and experience of the learner (as well as other factors) must be taken into account when choosing a style of programme or mode of response.

Research on linear and branching programmes seems to support this standpoint. Thus Roe (1962) found no difference in mean test scores between linear and branching programmes on probability with engineering students and Widlake (personal communication) has also found the methods equally effective in teaching sentence structure to secondary school pupils. Larkin's (1964) fourteen-year-olds gave the same result. In these cases adequate learning sets and familiarity with related materials may be presumed. Coulson and Silberman (1960) however found a constructed response group was better than a multiple-choice branching group on the recall section of a test (though not on recognition items) and Larkin and Leith (1964) found that less mature children learned better from a linear programme, though the brightest were equally good with either programme.

2. THE EXPERIMENT

The experiment reported here was designed to assess the importance of active responding in learning unfamiliar conceptual material with two styles of programme. Linear and branching programmes covering a topic in geography were administered in two ways, either by writing the response required (whether constructed or selected) or by thinking the response but without writing.

While there is no dispute that branching programmes tend to be quicker to work through and that covert is faster than overt responding, little work seems to have been done in comparing the covert linear method with the branching method to assess their relative efficiency. Times taken to complete each programme were noted to carry out this comparison.

It was predicted that:

- (1) the linear overt method (LO) would have a significantly higher mean score on post-test.
- (2) the linear covert (LC) and branching overt (BO) methods would not differ on the post-test.
- (3) the branching covert (BC) method would have the lowest mean test score.
- (4) the times taken to complete the programmes would have the order $LO > LC = BO > BC$.

Subjects

The sample chosen consisted of 32 boys and 40 girls aged ten, with IQs between 90 and 124 (average 103), from two similar junior schools in the same area of the West Midlands. The sample was dichotomised at the median, within sexes, and the children were randomly allotted to treatment groups. Treatments were also assigned randomly. Unfortunately, eight children became ill with mumps during the experiment and since the cell frequencies were no longer proportionate a single factor design was used. Mean I.Q., standard deviation and number of subjects in each group are shown in Table I. A test for homogeneity of variance showed no significant difference between groups.

The subjects were chosen because they had no previous background of instruction in the concepts and terminology of the programmes and because of the finding with other programmes, cited above, that children of this age and maturity may reveal differences

in learning more clearly than older children, on materials similar to those used in classroom work.

TABLE I

MEAN I.Q.* STANDARD DEVIATION AND NUMBER OF SUBJECTS OF
TREATMENT GROUPS

	LO	LC	BO	BC
x	103.00	103.21	103.19	103.00
s	7.55	9.32	6.98	7.48
n	17	14	16	17

* Moray House Verbal Reasoning Test.

Programmes

The programmes (Herringshaw and Hunter, 1964) taught the concepts of latitude and longitude, their angular measurement from the equator and Greenwich meridian, the location of places on the globe and the relationship of climate to location. The linear programme contained 175 frames and used the conventional methods of thematic and formal prompting and vanishing. Sample frames are given in Fig. 1.

equator	The longest line of latitude is at the e or.	27
parallel	As we move away from the Equator, either to North or South, the lines of latitude remain p to the Equator but their circumferences get shorter and shorter.	28
long	Lines of latitude near the Poles have short circumferences whilst lines of latitude near the Equator have circumferences.	29
parallel, shorter or smaller	All lines of latitude are p to the Equator, but they get as they get nearer to the Poles.	30
shorter, lines of latitude	The further away from the Equator we go, the are the circumferences of the	31

FIG. 1. Sample frames from the linear programme.

Revision was carried out to make the material more readable and trials confirmed the low error rate previously found. (Less than 5%.)

Originally, the branching programme presented two alternatives in most frames. In revising it the number of alternatives was extended so that most frames had three possible answers.* The version used contained 70 frames. An example is shown in Fig. 2:

Luckily, we know all about *angles* of latitude.

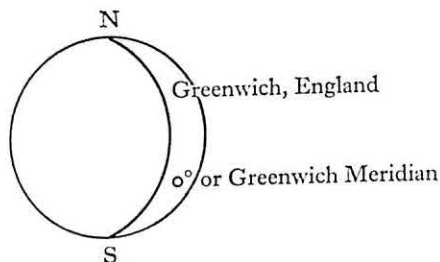
Longitude, too, is an angle and so is measured in degrees. Because all meridians of longitude are alike, no single one can be used as a starting point, *so we have to choose one and call it 0° .*

The one chosen, is the meridian of longitude that passes through the Greenwich Observatory which is situated near the River Thames very close to the centre of London.

Whilst latitude is measured North or South of the Equator, which is 0° of latitude, longitude is measured East or West of Greenwich, which is 0° of longitude.

READ THIS LAST PARAGRAPH AGAIN VERY CAREFULLY AND LOOK AT THE DIAGRAM.

The diagram shows the Greenwich Meridian or the 0° Meridian.



A place with a longitude of, say 16° East, means that it is 16° East of the Greenwich Meridian.

Which statement is correct?

A place with a longitude of 40° W must

- (a) lie along a meridian of longitude that is 40° W of the Greenwich Meridian and can be anywhere from the North Pole to the South Pole.
- (b) lie along a meridian of longitude 40° W of the Greenwich Meridian but it must be somewhere North of the Equator.
- (c) lie along a meridian of longitude 40° W of the Greenwich Meridian but it must be somewhere South of the Equator.

If you think (a) turn to page 3
 (b) turn to page 5
 (c) turn to page 20

Fig. 2. Sample frame from the branching programme.

The programmes were administered in the children's normal classrooms in four forty-five minute sessions, two on one day and the

* In most cases the branches were remedial loops.

other two after a day's interval. Tests were given when each child came to the end of his programme.

Tests

Two equivalent fourteen item tests used in a previous study (Herringshaw and Hunter, 1964) were given as a post-test. One of these was a multiple-choice selection test, the other was a test of recall. An examination of the performance of another sample of thirty ten-year-old children on the two sub-tests after using the written mode of the linear programme revealed no significant difference between them. The recall test, which was given first, obtained the lower mean score. ($t=1.49$, $p>.10$). Correlation between the tests was 0.76 ($p<.01$). To forestall a possible criticism that group LO had a greater amount of practice in composing responses, the different programme groups were each given tests similar to their own methods of working, that is, the linear programme groups were given the recall test and the branching groups the recognition test. Had the recognition test results of the main experiment been equal to or higher than those on the recall test the relative effectiveness of the linear and branching programmes could not have been compared, only the comparison between writing and reading response modes being justified. On the other hand, lower scores on the multiple choice test would reinforce the interpretation that linear programmes are more effective. The results given below support the latter point.

3. RESULTS

The results of the experiment were analysed by means of a one-way analysis of variance. Mean scores for each treatment group are shown in Table II.

TABLE II
MEAN SCORES AND STANDARD DEVIATIONS OF TREATMENT GROUPS
ON POST-TEST (14 items)

	LO	LC	BO	BC
$\bar{x}$	11.18	9.00	9.19	8.41
s	2.07	2.47	2.69	2.85
n	17	14	16	17

Hartley's test was carried out and showed that variances were homogeneous (Walker and Lev, 1953). Treatments were found to differ ($P<.05$), details of the analysis being shown in Table III.

TABLE III

ANALYSIS OF VARIANCE OF POST-TEST SCORES

<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Significance</i>
Between	72.91	3	24.30	3.11	.05
Within	477.03	60	7.82		
<i>Total</i>	549.94	63			

The difference between groups LO and BO was significant at the .025 level (one-tailed) $O = 2.16$. BO and LC were not found to be different while BC did not differ from BO.

The original factorial design which compared response modes, ability levels and sexes was analysed by a method using unweighted means of subgroups (Walker and Lev, 1953). Since cell frequencies ranged only between three and five the approximations involved are small. Significant differences at or beyond the .01 level were found between programmes (linear better than branching), response modes (overt responding superior), ability levels—this was the largest variance, and sexes (boys better than girls). One of the second order interactions reached significance ($P < .05$) but there is considerable risk in asserting the existence of higher order interactions in an analysis of this kind.

To test the relative performance of high and low ability groups on the factors being investigated each ability level was analysed separately and response mode and programme style differences were assessed. In keeping with the view stated in the introduction there were no significant differences between methods of responding or types of programme at the high ability level. There were, however, differences between groups on each of these factors at the lower level of intelligence. Between programmes the difference was significant at the .05 level. The difference between response modes was very significant. ($P < .005$.)

It may also be noted that the variances of treatment groups, (Table II) though not significantly different show some advantage to the linear overt method.

Time taken to complete the programmes varied quite widely both within and between groups. The prediction put forward above about the order of groups was confirmed. As can be seen from Table IV group LO took longest, LC and BC are only a fraction of a minute different and BC took least time.

TABLE IV

MEAN TIMES TAKEN BY TREATMENT GROUPS TO COMPLETE THE TASK
(in minutes)

LO	LC	BO	BC
100.24	60.21	60.88	50.29

Analysis of Variance of treatment group times (Table V) resulted in a significant F ratio.

TABLE V

ANALYSIS OF VARIANCE OF TIME TO COMPLETE PROGRAMMES

Source	SS	df	MS	F	Significance
Between	24,646.27	3	8215.42	15.41	.005
Within	31,990.73	60	533.18		
Total	56,637.00	63			

The linear overt group took significantly longer than the branching overt group ($t = 5.15$). The other comparisons were not significant.

No attempt was made to compute an efficiency index by which to compare group performances since such indices are generally held to be invalid (Lumsdaine, 1963) especially when differences in mean score have been found. It is noteworthy, however, that the difference in time between groups LC and BC is quite small, suggesting that a covert approach to a linear programme in book form would not take much longer than reading through a scrambled book.

4. DISCUSSION AND CONCLUSIONS

A reservation must be made about the wider interpretation of these results. It is possible that the linear programme used in the experiment is intrinsically better than its branching counterpart—though there is difficulty in giving a precise meaning to this statement. On the one hand, preparation and validation of programmes which fulfil certain conditions, such as recognised levels of error rate, success on criterion frames, etc., may give the required sense. In this case performance—on tests given after the programmes have been completed would be a meaningful comparison. On the other hand if a “good” programme is taken to mean one which achieves its objectives, e.g. 90% of test scores above a given percentage of possible marks, then the comparison must be in terms of the effort required to prepare each kind of programme, the attitudes of the learners to the task, long term retention, and a variety of subsidiary outcomes such as improvement in reading, transfer of study skills, etc.

Criteria for the first of the senses outlined could be agreed upon but no attempt will be made here to suggest what they might be.

The second meaning does not require conventional acceptance of particular criteria. Comparisons of length of time required to write, validate and edit programmes must, however, depend on questions such as which programme is written first, what experience of each style the writer has and so on.

The experiment was designed to assess the value of making a written response in programmed learning. The analysis unequivocally favours the overt method of responding and the linear style to the branching. It must be pointed out, however, that this conclusion has reference particularly to children in the lower ability groups. As in other investigations the differences were smallest with bright children who may well be encouraged to work with the faster methods when learning tasks of the same type as those used in the experiment.

In drawing these conclusions no attempt has been made to determine the influence of time on learning. It could be suggested that since test means are related to mean learning times the factor which most influences score is not programme style or response mode but duration of learning. The results of an analysis of covariance adjusting for time are not yet available.

5. ABSTRACT OF FINDINGS

72 children (average I.Q. 103) in their final year at two junior schools were taught a topic in geography either by a linear or a branching programme. Half of the children in each group wrote their responses, while the other half were instructed to think what the answer should be but refrained from writing.

1. The groups which made written (overt) responses were significantly better than groups which made covert responses ($P < .01$).
2. The linear programme groups obtained significantly higher mean scores on a post-test than the branching programme groups ($P < .01$).
3. Between groups differences were greater at the low ability level than for children above the median I.Q.
 - (a) More intelligent subjects did not differ on either programme or response mode factors.
 - (b) At the lower ability level linear programme groups were better than those learning from the branching programme ($P < .05$), while the overt method of responding was found to be better than the covert ($P < .005$).

4. Individual comparisons between treatment group mean scores were made following a one way analysis of variance.
 - (a) The linear overt group was significantly better than the branching overt group ($P < .025$, one-tailed).
 - (b) The difference in mean score between the linear covert and the branching overt groups was insignificant.
 - (c) The covert branching method obtained the lowest mean score but was not reliably different from the written branching method.
5. A very strong, positive, linear relationship between post test means and average times to complete the programmes was found.
 - (a) The linear, overt group took significantly longer than the branching overt group ($P < .001$).
 - (b) Other differences were not significant.

The findings confirm the results of some earlier experiments on modes of responding and styles of programming.

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SOME MORAL ATTITUDES OF BOYS IN A SECONDARY MODERN SCHOOL

by J. B. EDWARDS

Educational Psychologist, North Wales

PART II

I. INTRODUCTION

A further part of the investigation of the moral attitudes of boys in a secondary modern school, described in a previous number of this journal (4), consisted in obtaining their responses to a specially constructed Attitude Scale. Attitude tests have been used previously in attempts to assess certain aspects of moral development. Such tests have been criticised on the grounds that a measure of a verbally expressed attitude does not accurately show or predict the extent to which it will influence a person's conduct (14). Furthermore, Vernon (25) has warned against the use of Attitude Scale tests with very young and less able children. Nevertheless, it can be maintained that it is important to ascertain, if possible, the attitudes of children, in this case secondary modern boys, to certain moral issues: these attitudes being important in their own right. Piaget (19) and Symonds (21) are two writers who support this view, and Thurstone (22) too has argued that opinions must be used as indices of attitude.

This present study examined the moral attitudes of boys in a secondary modern school, and the differences between the attitudes of boys on their first and last years at the school. No attempt was made to evaluate moral behaviour. Each boy was given an intelligence test to see what the relationship would be between intelligence and moral attitude test scores. Boys also rated each other and were rated by their teachers to obtain the "climate" of opinion in which they moved.

2. BACKGROUND AND TESTS USED

The full sample consisted of the same 234 secondary modern boys, namely 102 first year (age range 11.4 to 12.3) and 132 last year (age range 14.3 to 15.2). The actual tests used were the following:

(i) *The "Moral Attitude Scale" Test*

Four moral concepts were selected for study, namely, honesty, responsibility, moral rightness and friendliness. To avoid ambiguity and confusion, these concepts were carefully defined by using the Oxford English Dictionary. Likert's (16, 3) method of summated ratings was used in constructing the scale. It was thought that this method would ensure that the boys considered, and replied to, every item, whether they agreed or not with the statement presented.

Such an attitude scale test, being a pencil and paper type of test, would have been difficult for backward readers in the school. Special care therefore was taken with children thought backward in reading by helping them when necessary and testing them in small groups. Their desks were spaced out to preclude any possibility of comparing answers. Every time the test was given the boys were told that there were no "right" or "wrong" answers. They were encouraged to give their opinions, and adequate time was given for every boy to complete the test.

The following are examples of test items:

It is wrong to tell lies at any time.

You may do something wrong when no one will know.

The big thing in life is how much you can get for yourself.

You should be punctual in school and work.

(ii) *Intelligence Test*

The intelligence test used was the Raven's Progressive Matrices (1938): the 1956 revised order of problems.

(iii) *Ratings by Teachers*

The co-operation of teachers was sought and they were invited to rate every boy in the two year-groups studied. The aim was to obtain the attitudes of adults towards the boys concerned, and not to gain a measure of the boys' moral conduct. Basically the question was whether teachers assessed the children in a similar or dissimilar way to that in which children assessed themselves. The four moral concepts were presented to the teachers along with an alphabetical list of the boys' names. These concepts were given in pairs of opposites. Teachers were asked not to let their judgment be affected by other qualities; and they were warned against being influenced by "Halo Effect". Moral rightness, for example, was presented in this way:

Moral Rightness: as that quality which enables a child to do what is good and fair, and to stick up for what he thinks is right. He is

straightforward in his dealings with others, and will go against other people if he thinks these people are doing wrong. At the other end of the scale, a child who lacks this quality is not disposed to do what is good and fair, does not keep to what he thinks is right, is not straight-forward, and will not go against other people if he thinks these people are doing wrong.

(iv) *The "Guess-Who" Test*

This type of test was devised by Hartshorne and May (9). Each boy was given a copy of a sheet with eight pen-portraits. They were told emphatically not to write their names on their papers. Each pen-portrait was read carefully by the boys and then they wrote down as many boys' names as they could think of which fitted the pen-portraits. In this test boys could name other boys not in their own forms but who were in the same year in school. Backward boys were again given help when necessary.

The four moral concepts used in this study were presented in terms of opposite pen-portraits, one favourable and the other unfavourable. An attempt was made to include the various aspects of a concept. For example, the concept of "honesty" was presented in the following pen-portrait:

These boys will not tell lies and will not cheat in a test.

They will not keep things which do not belong to them.

They will hand over any money which they find in the street.

They will not keep any extra change given to them by mistake.

The unfavourable pen-portrait of "responsibility" was:

These boys will not come on time, and give up easily when they come up against a hard problem. They have no ideas of their own, and cannot work on their own, without always asking for help.

No problem was felt in preparing favourable pen-portraits; but it was more complicated preparing unfavourable ones. Little difficulty was anticipated in gaining the co-operation of the boys to provide names for favourable pen-portraits; but what of their opposites? Care was taken to construct pen-portraits which would not unduly offend the boys, as it was thought few or no names would be given for unfavourable ones. "Honesty" as an unfavourable description might cause the most difficulty. Hence the wording was somewhat modified so that names for this category would be received. Each form master

was approached before the test was given and asked if he believed any of the pen-portraits would cause offence. Actually, names were received for unfavourable aspects and no comment or complaint was heard from any of the boys who participated in this test.

An attempt was made therefore to obtain the attitudes of the boys towards each other, but no attempt was made to use these scores as a "true measure" of a boy's actual honesty or responsibility. Rather the scores on this test might indicate, as Tryon (23) has stated, "a measure of the environment of opinion in which each child lives". Havighurst and Taba (10) also used a similar type of "Guess-Who test" in their investigation with adolescents. More recently, Pritchatt (20) has used the "Guess-Who test" in a grammar school study of sociometric choice behaviour. He reported reluctance by some pupils to giving names for less pleasant characteristics of the "Guess-Who test" and also believed that these pupils were using this test merely to repeat socially accepted values.

3. RESULTS

(i) *The "Attitude Scale" Test*

The Attitude scale's 52 items were divided into the four parts dealing with honesty, responsibility, moral rightness and friendliness. Scores were calculated for the two main groups (eleven and fourteen-fifteen year-old) on the whole test, and also for the parts of the test. The older boys' mean score for the whole test was lower than that gained by the younger boys. When measured statistically, the difference between the two means was significant at the 0.01 level (see Table I). Judged by this test, therefore, the younger boys had the more favourable attitudes.

When the test was divided into its four parts, it was found that on three of these parts, i.e. all except those items under the concept of friendliness, the eleven-year-old group's mean scores were significantly higher (at 0.01 level) than those of the older group. There was no significant difference between the means only on those items concerned with friendliness. It seems that where friendliness was concerned the attitudes of the boys in the school remained much the same, but on the other aspects of this test there was a deterioration in attitudes as the boys progressed through the school. The two aspects which deteriorated the most were responsibility and moral rightness.

(ii) *The "Attitude Scale" Test and "Intelligence" Test Scores*

When the scores for these two tests were correlated the results

EDUCATIONAL REVIEW

TABLE I

THE ATTITUDE SCALE TEST

	<i>Chronological age</i>	<i>N</i>	<i>Mean of Total Attitude Scale scores</i>	<i>Standard Deviation</i>	<i>Level of significance of difference between means</i>
First year and	11.4 - 12.3	102	138.14	20.67	0.01
Final year	14.3 - 15.2	132	127.44	21.83	

PARTS OF TEST

	<i>Levels of significance of differences between means</i>			
	<i>Honesty</i>	<i>Responsibility</i>	<i>Moral Rightness</i>	<i>Friendliness</i>
First year and	0.01	0.01	0.01	Not significant
Final year				

TABLE II

CORRELATIONS BETWEEN THE ATTITUDE SCALE TEST AND INTELLIGENCE TEST SCORES

	<i>N</i>	<i>r</i>	<i>Standard error</i>	<i>Level of significance</i>
First year	102	.133	.09	Not significant 0.05 level
Final year	132	.138	.07	

TABLE III

CORRELATIONS BETWEEN THE RATINGS, THE "GUESS-WHO" TEST AND THE ATTITUDE SCALE TEST

<i>Forms</i>	<i>Teachers' Ratings and "Guess-Who" tests</i>	<i>Teachers' Ratings and Attitude Scale</i>	<i>"Guess-Who" and Attitude Scale</i>
1C	0.346	0.177	0.056
1B	0.738		
1A	0.416		
Combined estimate of <i>r</i> 's	0.545	0.198	0.086
4R	0.835	0.160	0.230
4C	0.609	0.046	0.126
4B	0.469	0.037	-0.061
4A	0.251	0.221	-0.183
Combined estimate of <i>r</i> 's	0.530	-0.036	0.045
		0.070	-0.040

were as shown in Table II. For the boys in both year groups, the coefficients of correlation were positive although rather low. However, for the final year group the correlation was significant at the .05 level. None of the correlations is as high as those obtained by Hartshorne and May (9) in their study.

(iii) *Teachers' Ratings*

From Table III, it can be seen that for every form on the first and last year groups, the teachers' ratings correlated positively with the "Guess-Who" test scores. The combined estimate of the correlations was for the first year 0.545, and for the last year 0.530. Correlations between the teachers' ratings and the Attitude Scale test scores were positive, except for one form, but only slight positive correlations were shown.

(iv) *The "Guess-Who" test*

The results of this test were better than anticipated. It had been thought originally that the boys would avoid the pen-portraits describing unfavourable attitudes, especially those concerned with honesty. This did not prove to be so. From the previous section (iii) it has been noted that the scores of the "Guess-Who" test correlated positively with teachers' ratings. For the last year backward form, 4R, the correlation was 0.835. The results of the "Guess-Who" test and the Attitude Scale test show that for the first year group, there was a slight positive correlation of 0.230; but for the last year group, a negative correlation of -0.040. There was a range between forms of 0.475 (for Form 1B) to -0.183 (for Form 4B). Hence, the scores of the attitude scale test correlated only slightly with those of the other two tests.

3. DISCUSSION AND CONCLUSIONS

On the basis of the results of the Attitude Scale test, there was a significant decrease in mean scores between the years of eleven and fifteen. Older boys, judged by this test, had less favourable attitudes. This substantially agrees with Beller's (1) finding, although he was concerned only with measuring the attitudes towards honesty of boys from nine to fifteen. Hyde (12), too, reports a decline in certain religious attitudes amongst secondary school children. Of the four concepts used in this present investigation, the older boys showed less favourable attitudes on all except friendliness. It is to be doubted whether the concept of friendliness is a strictly moral one. With the boys studied, it was found that various meanings were confused and

they considered friendliness in a somewhat less detached way than the three other concepts. Havighurst and Taba (10) also found that friendliness raised difficulties and some confusion in their study. They thought two main aspects of friendliness were used, namely, what they called "sociability" and "kindliness".

As the boys progressed through the school what had caused this decline in their attitudes? Is it possible that similar declines could be found in other communities, for example, the armed forces? Could any comparison be made between the attitudes of army recruits and experienced soldiers just about to be released? Would the final months for veteran soldiers show a decline in their attitudes? One would possibly expect younger boys to be more keen and enthusiastic and this could be reflected in more favourable attitudes. Older boys had their minds more on their post-school days and on the adult society in which they would soon be moving. When interviewed, on another part of this investigation, older boys clearly had "work" and "jobs" in the forefront of their thoughts. Jersild (13), moreover, believes that many children show a decline in interest and morale as they move through the school forms and he thinks that an important contributing factor is the competition of other interests. However, whatever the reason for the decline, one is presumably more concerned with a decline in moral attitudes than a decline in, for example, attitudes towards music, poetry or organised games. Whereas the terms praise and blame are largely irrelevant in evaluating a boy's attitude towards music or poetry, such terms become important in evaluating attitudes towards honesty, responsibility and moral rightness.

The older boys in this study were well into the period of adolescence. Wall (26), Fleming (5) and Musgrove (18) have described this stage of development as one of a difficult adjustment to adult standards. The standards which had been accepted in earlier childhood were now being challenged and revised as many adolescents questioned the values of adult society. Piaget (19) has contrasted what he has called the period of "unilateral constraint" with that of "co-operation". Many research workers have agreed in general with Piaget about the change from external authority, such as a parental figure, to the time when principles were thought out by the individual and he became responsible for the line of action which he took. However, in between these two periods or stages, Piaget believed there was a phase in which rules and commands were "interiorized and generalized". But has Piaget neglected to study more carefully

this so-called phase? Is this phase of uncertainty the time when adolescents search for new values and fresh principles? Beller (1), discussing the conflicts of fifteen-year-olds, thought that their lower mean scores for honesty on tests which he gave showed that a re-appraisal was taking place in their outlook. Furthermore, Morris (17) has reported fluctuations in moral development in the middle of a grammar school. He suggests these fluctuations were reinforced by uncertainties over relations with authority, both inside and outside the school. Morris also found no evidence, in a secondary modern school studied by him, to show any increase in many moral judgments between the first and fourth forms.

The scores the boys gained on the intelligence test did correlate positively with scores obtained on the Attitude Scale test but the correlation was a low one. This result agrees more with that obtained by Havighurst and Taba (10) than the much higher correlations obtained by Hartshorne and May (9). Symonds (21) has concluded that Hartshorne and May's correlations indicated that general intelligence was a "large factor" in determining a score on a test of moral knowledge. Havighurst and Taba, on the other hand, disagreed and did not believe that intelligence was such an important factor in the formation of moral beliefs, though not unimportant. The results of this present study tend to confirm this latter view, though it must be borne in mind that these results were obtained from a secondary modern school and with a non-verbal test of intelligence. However, Morris (17) thought his findings supported those of Harrower (8) and Lerner (15) in showing the influence of social class differences on "intellectual" moral development, and added that he believed that grammar school children were nearer to achieving independence of moral judgment than their modern school counterparts.

A higher correlation was found between the ratings made by the teachers and boys, than that of either of these two measures with the scores gained on the Attitude scale test. The intention in comparing the ratings made by teachers and boys was to find out, if possible, the kinds of values which influenced the attitudes of the raters. Hence, the question of the ratings being valid as predictors or measures of actual behaviour did not arise. Havighurst and Taba (10) reported a correlation of 0.79 between the scores obtained in their investigation by adults and adolescents. They believed the coefficient was high enough to show considerable consistency in the "character reputation" of the sixteen-year-olds in their study. Is it, therefore,

plausible to infer that the lower correlations obtained in the present study reflect more inconsistency amongst these younger boys? Thus, younger boys would find rating other boys more difficult and in turn be more difficult to rate by teachers than older boys. Hallworth and Morrison (7) report interesting aspects of peer and teacher personality ratings of pupils in a secondary modern school, and also the extent to which these ratings agree with each other. On two of the main dimensions which they studied, general agreement was found between teachers' and boys' ratings.

Many individual differences were found in the attitudes held by the boys studied so that it is to be doubted whether one comprehensive theory could adequately account for these variations. Morris (17), stressed what he called the individual's "definition of the situation" and also believed that his results gave no help to anyone building up an abstract theory of moral or character development. Furthermore, Havighurst and Taba (10) gave as one of their main conclusions that "moral beliefs were formed by accumulating reactions to immediate situations". The moral attitudes revealed by the present study were formed in diverse ways and each boy was influenced by a different group and environment. Even sets of twins when interviewed later gave evidence of dissimilar attitudes. Hemming (11), in discussing the varieties of experience which faced a growing child, has written: "Moral fibre appears therefore to be a compound of what is inherited and what is experienced." Clearly, in our contemporary society, the environment influences a child in multifarious ways. There are, for example, differences in the amount of love and acceptance children receive in the home, differences in the extent of parental control, differences in socio-economic background and schooling, difference in religious beliefs, and even differences within family groups in their attitudes towards conflicting values and standards. Finally, Valentine (24) in stressing individual differences, wrote: "Some general concepts as to moral conduct can be grasped and used correctly earlier by the more intelligent children; and variations in the age of functioning will occur according to the influence of the home and school environment." The school environment thus becomes one of the important factors influencing the formation of moral attitudes. Individual differences in the rate of intellectual development have been recognised for some time. Goldman (6) and others (2) have stressed the individual differences which take place in the development of religious ideas. It is possible that a similar realization of the individual variations in

moral development would help many children to acquire mature and responsible moral attitudes.

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BOOK NOTICES

G. Z. F. BEREDAY, *Comparative Method in Education* (Holt, Rinehart, and Winston, 1964, 302 pp., 42s.).

PROFESSOR BEREDAY, best known in this country for his joint editorship of the *Yearbook of Education*, has compiled an unusual and highly serviceable manual for the student of comparative education. The first half of the book assembles into a coherent whole a number of his articles discussing the problems and exemplifying the methods of work in this field. The second half lists and annotates a wide-ranging selection of centres, scholars, and printed works concerned with comparative education.

The author, tracing the development of his subject since the early nineteenth century, argues for a conception of it as "a political geography of schools". He concedes rather grudgingly that comparative education has some practical usefulness, but avers that "men study foreign educational systems simply because they want to know". This seems debatable, especially when one bears in mind what another Columbia University professor, Jacques Barzun, calls in his fine book on *The Modern Researcher* the "reductive fallacy" of monocausality ("all this is nothing but X"). But Bereday has many sound and interesting things to say about the equipment of knowledge, experience, and self-insight needful for the comparative educationist, and about the distinction between the descriptive-factual and the analytical-thematic work in his field. In his analysis he uses instructive examples drawn from several countries, but the need for attention to factual accuracy is shown up by some minor but grating errors (Ch. 5, "Teacher performance in 3 countries—England, France and Germany": the Burnham scales are *not* "ministry-negotiated"; university education departments do *not* preside over Area Training Organisations: and one does not expect a Polish-born writer to antedate Rej by 300 years to the thirteenth century, in Ch. 3).

The book is written in a lively style, and contains enough constructive methodological advice and references to make it a valuable addition to the small stock of general works on comparative education. It is, moreover, attractively produced.

R. SZRETER



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Cloth 32s. 6d. net; Paperback, 17s. 6d. net

CAMBRIDGE UNIVERSITY PRESS

BRUCE TRUSCOT, *First Year at the University*, revised by James Blackie and Brian Gowenlock (Faber, 6s. 6d.).

Higher Education in the United Kingdom; a Handbook for Students from Overseas and their Advisers (Published for the British Council and the Association of Commonwealth Universities by Longman Green, 7s. 6d.).

MANY an able student enters a university without a very clear idea of its proper function or of how its aims and methods differ from those of the school from which he has just come. It is to these folk that the revised edition of Bruce Truscot's well-known and admirable little book is particularly addressed. Its message springs from the belief that the aim of a University is "... not to produce a set of well-adjusted conformists ... but to give its members the mental tools necessary for forming a personal judgment". The transition to this atmosphere involves many pitfalls, of which perhaps the greatest can arise from failure to establish early enough one's own criteria of adequate progress; personal intellectual satisfaction has now to begin replacing the frequent judgments of one's teachers. The book examines in detail what all this means in terms of getting quickly down to the business of becoming an effective student. University teachers, lecturers—and thank heaven for a clear and sensible account of the virtues of lectures!—laboratory classes, books, personal relationships and the organisation of work and leisure are all treated in turn with splendid clarity and conviction.

Inevitably there are some blemishes. The revision has not always been made as smoothly as might have been wished; here and there an added paragraph protrudes harshly from the general style. On page 27 there is a particularly confusing attempt to explain the registration of new students and it is to be doubted whether the lot of the Ordinary Degree student is everywhere as unhappy as the book makes out. It is regrettable that the art of critical and systematic reading which all students ought to learn, is made to seem somehow different and less important to the scientist than to his arts colleague.

However, like a few wrong notes in a fine performance of a symphony, these blemishes are insignificant beside the success of the whole book. Every intending undergraduate ought to be given a copy before he leaves school.

Higher Education in Great Britain is an excellent compendium of factual information about the various institutions of higher education and the courses they offer. There is a useful explanatory introduction by Lord James.

R. H. KNIGHT

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J. H. WALSH, *Teaching English* (Heinemann Educational Books, 1965, 21s.). In the last forty pages of Mr Walsh's book—headed, incidentally, "Miscellaneous Matters"—we find intelligent and informed writing by a man who obviously cares about his subject and his pupils. But this section comes at the end of a book largely devoted to the *two* years to be spent preparing for "the first public examination (by which I mean the examination for the General Certificate of Education at Ordinary Level *or for the Certificate of Secondary Education*" (my italics).

This mass of advice concerning "O" level might be justified on grounds of expedience, though one would like to see some recognition of the shortcomings of the present examination; but there is no justification for pretending that the book has anything at all to do with C.S.E., or that most of the techniques advocated would be anything but harmful if used with non-academic children. If some C.S.E. syllabuses seem feeble imitations of G.C.E. this should not be fatalistically accepted, but condemned by all responsible teachers. Moreover, Mr Walsh shows no signs of having taught in any but grammar schools, and it is presumptuous of him to claim that this is a book "intended for beginner-teachers first; then for more experienced teachers . . . and then for examiners, particularly those who are planning and conducting the new examinations".

Nor does Mr Walsh appear aware of attempts to improve the existing G.C.E. examinations, such as London's special language paper and literature syllabus B, which try to do away with the limiting approach to language skills and the deadening effect of the very detailed study of a few texts, which he unquestioningly accepts.

In Mr Walsh's view, literature appears to have little connection with the life of the child. His approach is almost entirely that of literary criticism: the novel is to be analysed by the story, the plot, the theme, the characters, the narrative-method and the characterisation; and in criticising those who advocate an examination which combines language and literature he writes: "Perhaps not a very large proportion of the country's school-children can be said to make a real success of writing, but that proportion is much greater than the proportion which makes a success of literature", and he attacks "the abolition of English composition examinations and the putting of all children through the English literature mill"; whereas the aim of integrating the two examinations is to abolish the conception of "literature" as separate from "life" and to enable children to move out from literature to an exploration of their own experience.

Perhaps Mr Walsh's view is the result of his choice of texts. It is certainly difficult to imagine a secondary modern class wanting to "rollick through (*Lorna Doone* or *The Cloister and the Hearth*) on their own, and then come back to parts for class-room gloating", but there are now many books which are of real interest and relevance to children and which make

meaningless his distinction between writing "from books" and writing "from life".

However liberal Mr Walsh's own views may be, and however discriminating his response to literature, a book such as this must be reactionary in effect, helping to perpetuate practices which are already discredited and which enlightened teachers are struggling to reform.

YVONNE REDMAN

We regret that in the notice of *Knight of the White Eagle* by W. J. Sparrow we omitted the name of the publisher which is Hutchinson and Co. of London. An American edition of this book will be published in August 1965 by T. Crowell of New York.

INFORMATION FOR CONTRIBUTORS

The *Educational Review* publishes three times a year general articles and accounts of research of interest to teachers, to lecturers, to research workers in education and educational psychology and to students of education. Articles dealing with research, with descriptions of experimental work in schools, with critical reviews of teaching methods or curricular content in schools will receive special consideration. In addition, the Editors will accept from time to time articles on administrative problems, on tests and measurement, on child growth and development and on the relation of schools to the community.

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